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ABSTRACT

This curriculum guide to the Supervised Agricultural Experience (SAE) program contains four units of insturctor's materials as follows: Unit 1: Developing an SAE Program; Unit 2: Using the Missouri Agricultural Record Book for Secondary Students; Unit 3: Analyzing the SAE Program; and Unit 4: Using the Missouri Farm Business Record Book. The document begins with a list of student objectives and competencies, advice to the teacher about motivating and evaluating students, lists of references and materials for students and teachers, and competency profile forms on which student performance can be recorded. The materials for each lesson of the units follow a format that includes student objectives, study questions, references for the student and teacher, teaching procedures, evaluation sheets for students, evaluation answers for teachers, transparency masters, handouts, and student work sheets. (CML)

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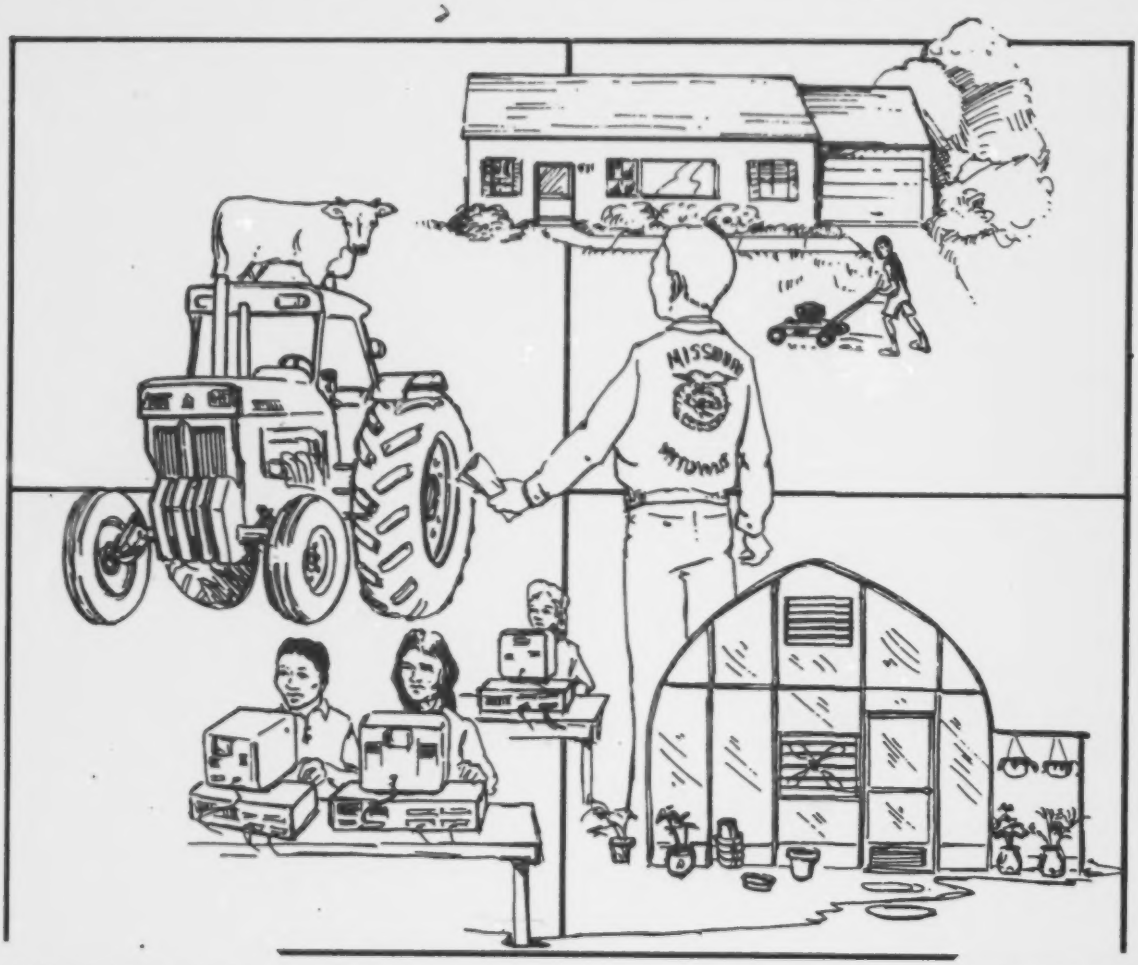
MISSOURI AGRICULTURAL EDUCATION

10-8185-I

Developing Programs of Supervised Agricultural Experience



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Instructor's Guide

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Instructor's Guide

DEVELOPING PROGRAMS OF SUPERVISED AGRICULTURAL EXPERIENCE

Developing an SAE Program
Using the Missouri Agricultural Record Book for Secondary Students
Analyzing the SAE Program
Using the Missouri Farm Business Record Book

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FOREWORD

Due to the revision of the record books used in agricultural education, the revision of the curriculum guide for Supervised Occupational Experience Programs was suggested by the MVATA Teaching Aids Committee. The Supervised Agricultural Experience Advisory Committee suggested the topics to be discussed and reviewed the materials. During the development of this curriculum guide, a change was made at the national level to refer to the Supervised Occupational Experience Program as the Supervised Agricultural Experience Program. This change has been incorporated in these curriculum materials.

Previously, one record book had been used for both secondary students and adult farmers. One phase of the record book revision process was to develop the Missouri Agricultural Record Book for Secondary Students and the Missouri Farm Business Record Book.

This guide covers placement, ownership, and directed laboratory SAE programs. It contains four units of instruction as follows: Unit I - Developing An SAE Program; Unit II - Using the Missouri Agricultural Record Book for Secondary Students; Unit III - Analyzing the SAE Program; and Unit IV - Using the Missouri Farm Business Record Book. Check the Table of Contents for a detailed listing of lessons. The "Contents" section in each unit contains objectives, competencies, motivational techniques, evaluations, and references and materials.

A student reference has been developed for all four units and can be purchased separately. Since Unit IV is designed for secondary and adult instruction, handouts which contain the same information as the student reference for Unit IV can be purchased for adults.

During the summer of 1981, the Missouri State Board of Education formally adopted the concept of "Instructional Management Systems" (IMS) as a priority for the 1981-82 school year. The Missouri Commissioner of Education described the IMS concept as a practical way of "organizing for excellence" in education. To meet the demand for greater productivity and accountability, Dr. Frank Drake, Director of Vocational Education, applied the elements of IMS to form the Vocational Instructional Management System (VIMS). The VIMS process provides a framework to use in planning and organizing to assure excellence in Missouri's vocational education system by focusing greater attention on the management of teaching and learning.

This guide incorporates the needed component parts to aid agriculture teachers in the implementation of VIMS. For ease of use, performance objectives and competencies have been included at the beginning of each unit, as well as being incorporated within each lesson.

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DEVELOPING PROGRAMS OF SUPERVISED AGRICULTURAL EXPERIENCE

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DEVELOPING PROGRAMS OF AGRICULTURAL EXPERIENCE

UNIT I - DEVELOPING AN SAE PROGRAM

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OBJECTIVES

1. The student will be able to describe the importance of an SAE program and the benefits that can be obtained from a successful SAE program.

2. The student will be able to identify the opportunities for SAE projects in the community.

3. The student will be able to set goals for the SAE program.

4. The student will be able to outline steps that are needed to begin the SAE program.

COMPETENCIES

1. List the benefits of a good SAE program.

2. Identify SAE projects for each area within the community.

3. Set goals for the SAE program.

4. Select projects for the SAE program.

MOTIVATIONAL TECHNIQUE OR INTEREST APPROACH

1. View one of the following slide shows available from the Missouri Vocational Resource Center, 8 London Hall, University of Missouri-Columbia, Columbia, MO 65211.

   a) "SOE: Teacher Perspective - Now More Than Ever." National FFA Center Production. DeKalb AgResearch, Inc.

   b) "Exploring Supervised Occupational Experience Programs," University of Illinois.

2. Ask several students from previous classes to discuss their SAE programs. If possible, have a student who has won star degree discuss how his or her SAE program helped them win the degree.

EVALUATION

1. Give short objective test following each lesson and a more in-depth objective test at the conclusion of the unit.

2. Observe the changes in behavior as evidence of an improved ability of students to deal with problems in this unit using background information acquired from earlier units.

3. Observe students' attempts to solve similar problems in their supervised agricultural experience programs.

REFERENCES AND MATERIALS

1. Student References

   a) Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.

   b) Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

   c) Sample Entries for the Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

2. Teacher References

   a) Handbook - Supervised Occupational Experience, a special project of the National FFA Foundation as a result of a grant from the DeKalb AgResearch, Inc. of DeKalb, Illinois.

   b) Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

   c) Sample Entries for the Missouri Agricultural Record Book for Secondary Students (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

   d) Vocational Agriculture. A joint project of the National Vocational Agriculture Teachers Association, Inc. and the Ace Bolt and Nut Co. through the FFA Alumni.

DEVELOPING PROGRAMS OF SUPERVISED AGRICULTURAL EXPERIENCE
Unit I - Developing an SAE Program
Major Competency Profile

Directions: Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

Rating Scale:
- **3 Mastered** - can work independently with no supervision
- **2 Requires Supervision** - can perform job completely with limited supervision
- **1 Not Mastered** - requires instruction and close supervision
- **N No Exposure** - no experience or knowledge in this area

3	2	1	N

Developing an SAE Program

1. List the benefits of a good SAE program.
2. Identify SAE projects for each area within the community.
3. Set goals for the SAE program.
4. Select projects for the SAE program.

Other (specify):

_____

_____

Developing Programs of Supervised Agricultur. xperience
Unit I - Developing an SAE Program

Class/Section: _____

Students:	List the benefits of a good SAE program	Identify SAE projects for each area within the community	Set goals for the SAE program	Select projects for the SAE program											

UNIT I - DEVELOPING AN SAE PROGRAM

Lesson 1: Why Have an SAE Program?

Objective: The student will be able to describe the importance of an SAE program and the benefits that can be obtained from a successful SAE program.

Study Questions

1. Why should I have an SAE program?
2. What are the benefits of a good SAE program?
3. What criteria must be met to qualify as an SAE program?
4. What are the characteristics of a good SAE program?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Transparency Masters
   a) TM 1.1: Why Have an SAE Program
   b) TM 1.2: Relationship Between Classroom-Laboratory Instruction, SAE, and FFA
   c) TM 1.3: Benefits of a Good SAE Program

UNIT I - DEVELOPING AN SAE PROGRAM

Lesson 1: Why Have an SAE Program?

TEACHING PROCEDURES

A. Introduction

Introduce the unit.

B. Motivation

Ask the class to tell about SAE programs or projects that older students or older brothers/sisters have at the present time. Ask students if they already have plans for an SAE program? What ideas do they have for an SAE program? Invite older students with outstanding programs to visit the class and explain how they got started and progressed with their program.

C. Assignment

D. Supervised study

E. Discussion

1. As students provide suggestions on why an SAE program is important, list them on the board. Use the previous year's SAE program summary report to illustrate how the two main purposes are served. Use TM 1.1.

   Why should I have an SAE program?

   a) To learn
   b) To earn

2. Use TM 1.2 to illustrate the relationship of SAE programs to classroom-laboratory instruction and FFA in the total agricultural education program. Using TM 1.3, uncover each of the benefits as they are discussed by the class. Ask students to think of additional benefits.

   What are the benefits of a good SAE program?

   a) Gain experience in agriculture
   b) Achieve independence
   c) Earn money
   d) Advance in the FFA
   e) Establish yourself in agriculture
   f) Develop competencies needed for work
   g) Gain self-confidence
   h) Learn to work with others

3. To qualify for an SAE program, as many of the following criteria should be met as possible. Instructors will need to determine what criteria must be met for their program.

What criteria must be met to qualify as an SAE program?

a) Supervised - Does the program plan include supervision by the teacher, parents, and/or employer?
b) Agricultural - Is the program in an area of career interest related to agriculture?
c) Experience - Does the planned project include hands-on practical opportunities?
d) Program - Is there a planned course of action including record keeping, evaluation, and expansion?
e) Instruction - Will the SAE program relate to instruction provided?
f) Time - Will the program be conducted by the student outside of class?

4. Duplicate a summary of a past American FFA Degree recipient or proficiency award winner (from the local school district if possible) and distribute copies to each student. The summary should show scope and labor income for each year of the SAE program. Ask a few students to report on how their plans fit these characteristics. Discuss with the class how many of the following characteristics will result in the benefits mentioned earlier.

What are the characteristics of a good SAE program?

a) Meets adequate size or scope requirements
b) Earns adequate labor income or profit
c) Meets individual interests and needs
d) Complements the home situation
e) Expands each year

F. Other activities

Show one of the following slide shows available from the Missouri Vocational Resource Center (MVRC), 8 London Hall, University of Missouri-Columbia, Columbia, MO 65211:

1. "SOE: Teacher Perspective - Now More Than Ever." slides. National FFA Center Production. DeKalb AgResearch, Inc.

2. "Exploring Supervised Occupational Experience Programs," slides. University of Illinois.

G. Conclusion

There are many benefits that can be received from a good SAE program. Certain guidelines must be followed by the student and teacher to ensure that the SAE program is conducted properly and successfully.

H. Competency

List the benefits of a good SAE program.

I. Answers to Evaluation

1. c
2. d
3. c
4. to learn, to earn
5. Should include five of the following: earn money; achieve independence; gain experience in agriculture; advance in the FFA; establish yourself in agriculture; develop competencies needed for work; gain self-confidence; learn to work with others.

UNIT I - DEVELOPING AN SAE PROGRAM Name _____

Lesson 1: Why Have an SAE Program? Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. Who is required to have an SAE Program?

   a. Agricultural education teachers
   b. Students planning to become farmers
   c. Every student in agricultural education
   d. Parents involved in farming
   e. Only the students who want one

2. Which of the following is a benefit of a successful SAE program?

   a. Increased dependency on the family
   b. Experience outside the field of agriculture
   c. Learn how to mismanage money
   d. Learn to work with others
   e. Lessen your self-confidence

3. Which is not a criteria for an SAE Program?

   a. Experience
   b. Supervised
   c. Large
   d. Agricultural
   e. Instruction

Complete the following short answer questions.

4. What are the two main reasons for an SAE program?

   a.

   b.

5. What are five benefits of an SAE program?

   a.

   b.

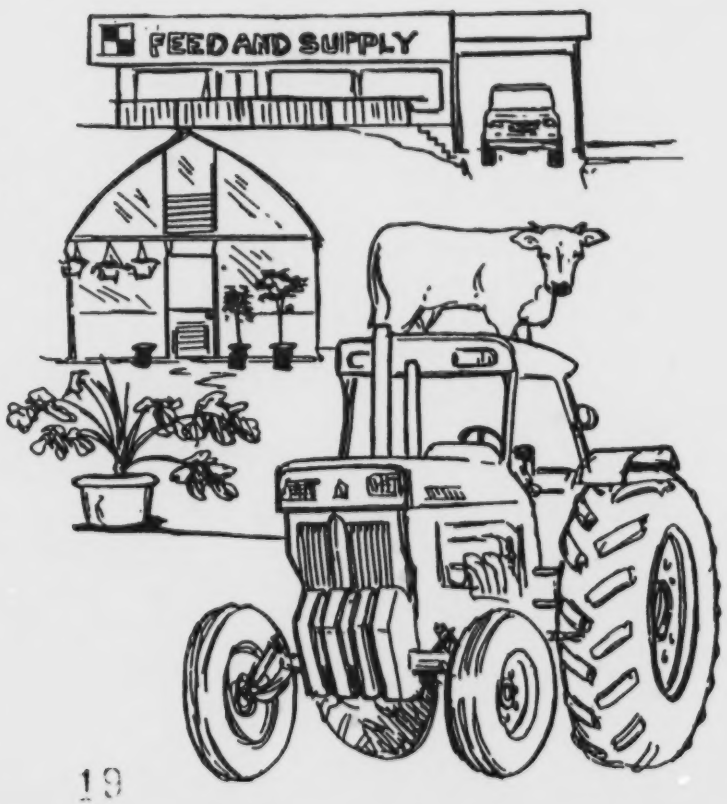
   c.

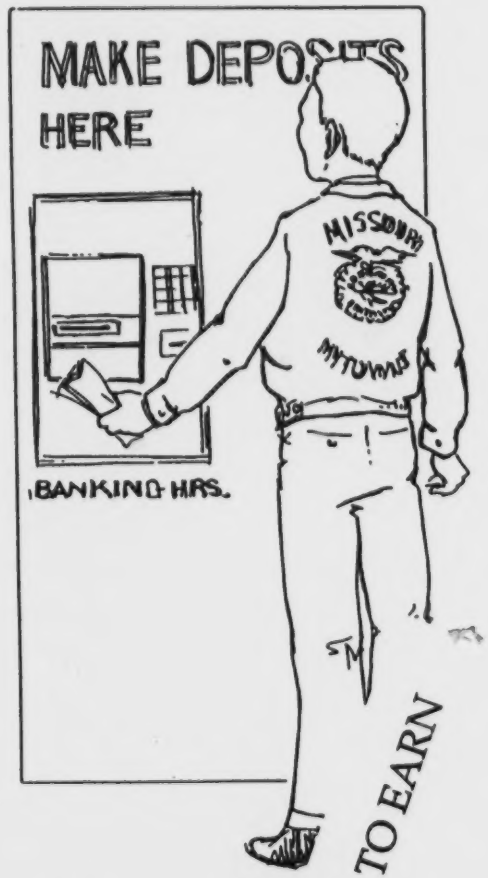
   d.

   e.

WHY HAVE AN SAE PROGRAM?

TO LEARN



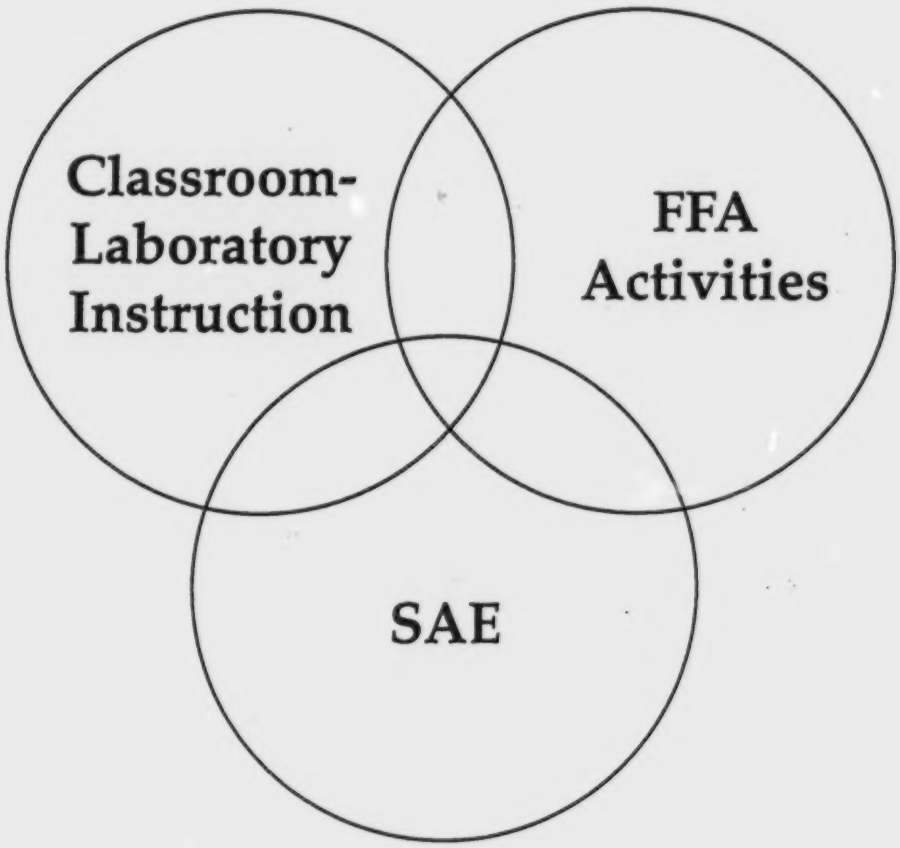


TO EARN

6-1

TM 1.1

RELATIONSHIP BETWEEN CLASSROOM-LABORATORY INSTRUCTION, SAE, AND FFA



BENEFITS OF A GOOD SAE PROGRAM

1. Earn money
2. Achieve independence
3. Gain experience in agriculture
4. Advance in the FFA
5. Establish yourself in agriculture.
6. Develop competencies needed for work
7. Gain self-confidence
8. Learn to work with others

UNIT I - DEVELOPING AN SAE PROGRAM

Lesson 2: Identifying Opportunities for SAE Projects

Objective: The student will be able to identify the opportunities for SAE projects in the community.

Study Questions

1. What are the six major types of SAE programs?
2. What are the characteristics of the SAE program areas?
3. What are examples of projects in each program area?
4. What are the opportunities for SAE projects in the local community?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Transparency Masters
   a) TM 2.1: Supervised Agricultural Experience Programs
   b) TM 2.2: Where Can I Get Agricultural Experience?
3. Worksheet
   a) WS 2.1: Supervised Agricultural Experience Programs

UNIT I - DEVELOPING AN SAE PROGRAM

Lesson 2: Identifying Opportunities for SAE Projects

TEACHING PROCEDURES

A. Review

Review the previous lesson on the benefits, criteria, and characteristics of a successful SAE program. This lesson will discuss the different types of projects that can make up the SAE program.

B. Motivation

Ask students what types of agricultural occupations are available in the community. Have students identify possible SAE projects that could prepare them for a career in each of these occupations.

C. Assignment

D. Supervised study

E. Discussion

1. Ask students to list the six main SAE program areas.

What are the six major SAE program areas?

a) Ownership Production
b) Ownership Agribusiness
c) Ownership Custom
d) Placement Production
e) Placement Agribusiness
f) Placement Laboratory

2. Use TM 2.1 when discussing the different types of SAE program areas. Stress that a student's SAE program can be conducted through one or a combination of these program areas.

What are the characteristics of the SAE program areas?

a) Ownership Production - The student owns all or a portion of the materials or inputs needed for the production project. The student also is responsible for managerial aspects of the project.
b) Ownership Agribusiness - In agricultural sales and/or service, the student owns all or a portion of the facilities and equipment. The student has the major responsibility for management and decision-making.
c) Ownership Custom - The student owns all or a portion of the equipment with which he or she contracts to perform a service for pay.
d) Placement Production - The student works for another person who owns a production operation.
e) Placement Agribusiness - The student works for another person or organization in agricultural sales and service.

f) Placement Laboratory - The student participating in a directed laboratory experience is usually working in the school or a community-owned facility. The student receives no pay. Teacher supervision is required to qualify as a directed laboratory experience.

3. Discuss different types of SAE projects that will match the occupations discussed during the motivation for this lesson. Identify which program each SAE project would fall under. Hand out copies of WS 2.1 for students to fill area examples for each SAE program.

What are examples of projects in each program area?

a) Ownership Production - livestock producer, dog breeder, diversified crop farmer, beekeeper, fish farmer
b) Ownership Agribusiness - woodcutter, honey sales, farmers' market stand, lawn service
c) Ownership Custom - ag building construction, hauling livestock, hay hauling, custom combining, spraying crops
d) Placement Production - livestock farm employee, Christmas tree farm worker, catfish farm employee
e) Placement Agribusiness - greenhouse employee, chemical applicator, farm supply store employee, veterinary assistant
f) Placement Laboratory - school greenhouse, school farm, FFA garden, agricultural education shop, observation of industry

4. Use local SAE program summaries from previous years to illustrate what SAE projects have been represented in the community. Use TM 2.2 to illustrate the sources of agricultural experiences in the community. Ask students to give specific examples of possible SAE projects available in their community. The instructor will need to work with students to determine specific projects that could be used in students' SAE programs.

What are the opportunities for SAE projects in the local community?

1) Business
2) Home
3) Community facilities
4) Farms
5) School

F. Other activity

Have students determine in which area(s) their SAE program will fit. What could be done to expand the program into another area?

G. Conclusion

Each student's SAE program can have projects under different program areas. For example, the main project for Frank's program is raising beef cattle (production ownership), but Frank also mows lawns (agribusiness ownership) and works in the school greenhouse for no pay (placement laboratory). By varying the types of projects that he is involved in, Frank gains valuable experience in more than one program area.
SAE projects can be categorized under one or more of the areas discussed in this lesson. The more areas that the program fits into, the more experience the student will receive.

H. Competency

Identify SAE projects for each area within the community.

I. Answers to Evaluation

1. c
2. a
3. d
4. d
5. e
6. b
7. Instructors need to determine if student's responses are appropriate. Answers will vary depending on what is available in the community.

Name _____

Lesson 2: Identifying Opportunities for SAE Projects

Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. The student owns all or a portion of the materials and inputs in which SAE program area?

   a. Ownership custom
   b. Placement agribusiness
   c. Ownership production
   d. Placement laboratory
   e. Placement production

2. If a student works in the school greenhouse for no pay, in what program area would this project fall?

   a. Placement laboratory
   b. Placement agribusiness
   c. Ownership agribusiness
   d. Ownership production
   e. Placement production

3 In which SAE program area would a student contract to perform a service using their equipment?

   a. Ownership production
   b. Placement laboratory
   c. Ownership business
   d. Ownership custom
   e. Placement production

4. Which type of SAE program area involves agricultural sales and/or services when the student owns part or all of the needed facilities or equipment and the student provides the input and management?

   a. Ownership custom
   b. Placement agribusiness
   c. Placement laboratory
   d. Ownership agribusiness
   e. Placement production

5. George, as a freshman, is unable to purchase the beef cattle needed to operate a production project; therefore, he is working for his parents on their farm. Under what program area would this project fall?

   a. Ownership custom
   b. Placement agribusiness
   c. Placement laboratory
   d. Ownership agribusiness
   e. Placement production

6. Sandy is working in her uncle's feed store 15 hours each week. Under which program area would this fall?

   a. Ownership custom
   b. Placement agribusiness
   c. Placement laboratory
   d. Ownership agribusiness
   e. Placement production

Complete the following short answer question.

7. What are four opportunities in the local community for SAE projects?

   a.

   b.

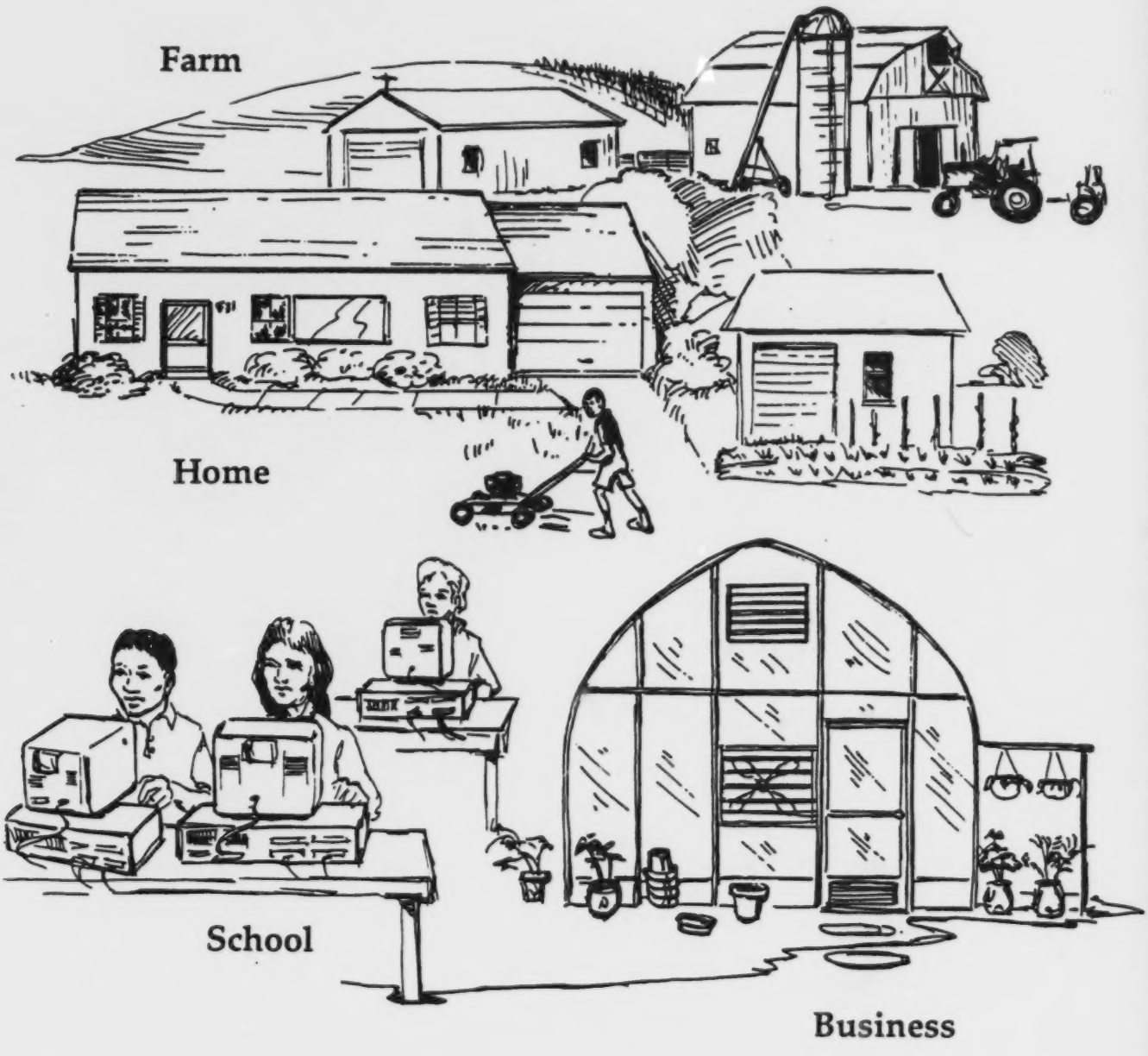
   c.

   d.

SUPERVISED AGRICULTURAL EXPERIENCE PROGRAMS

PROGRAM AREAS	DESCRIPTION	PROJECT EXAMPLES
Ownership Production		
Ownership Agribusiness		
Ownership Custom		
Placement Production		
Placement Agribusiness		
Placement Laboratory		

WHERE CAN I GET AGRICULTURAL EXPERIENCE ?



UNIT I - DEVELOPING AN SAE PROGRAM

Lesson 3: Setting Goals for the SAE Program

Objective: The student will be able to set goals for the SAE program.

Study Questions

1. **Why should goals be set for the SAE program?**
2. **What are the types of goals?**
3. **How should goals be set for the SAE program?**

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Worksheet
   a) WS 3.1: Goals for My SAE Program

UNIT I - DEVELOPING AN SAE PROGRAM

Lesson 3: Setting Goals for the SAE Program

TEACHING PROCEDURES

A. Review

Review the previous lesson on identifying the types of SAE projects available in the local community.

B. Motivation

Ask students to write down where they want to be and what they want to be doing five years from now. What about ten years from now? Lead the discussion to emphasize the importance of setting goals to achieve the things you want in life.

C. Assignment

D. Supervised study

E. Discussion

1. Ask students to think of the information from the first two lessons. Guide the discussion toward the importance of setting goals for the SAE program in order to produce the desired outcomes from the SAE program.

   Why should goals be set for the SAE program?

   1) To provide a road map for the future
   2) To move toward a career objective
   3) To assist in selecting and starting the SAE program
   4) To produce the desired outcomes
   5) To assist in planning and expanding of the SAE program
   6) To measure progress

2. Ask the students to name several goals that they have for the future. Explain the difference between long- and short-term goals. List them on the board, dividing these goals into categories based on similarities.

   What are the types of goals?

   a) Financial
   b) Educational
   c) Personal

3. Each student will have a unique SAE program. There are three main areas in which goals should be set for the SAE program. Have each student write down their goals in each category for their SAE program for the coming year, as well as for the remainder of their enrollment in agricultural education. By keeping the list of goals in their record books, students can review it periodically and make adjustments as needed. Use WS 3.1.

How should goals be set for the SAE program?

a) Financial
   1) Hours worked
   2) Pounds or bushels produced
   3) Amount of money you would like to earn
   4) Where financing will be obtained
   5) How borrowed money will be repaid

b) Educational
   1) Tasks to be performed
   2) Skills and competencies to be learned
   3) Exposure to new ideas and methods

c) Personal
   1) FFA - degrees and awards
   2) Professional organizations
   3) Promotions

F. Other activities

View one of the following available from the Missouri Vocational Resource Center (MVRC), 8 London Hall, University of Missouri-Columbia, Columbia, MO 65211.

1) "I Can," Zig Ziglar. 12 cassette tape series with worksheets (two specifically on goal setting.)

2) "Ya Gotta Have Goals," "Setting Your Goals," and Reaching Your Goals." Zig Ziglar Series.

3) "Goal Identification." University of Nebraska Extension Division.

G. Conclusion

A successful SAE program includes setting goals and striving to achieve those goals. Goals can be used to measure progress in the SAE program and plan for new directions.

H. Competency

Set goals for the SAE program.

I. Answers to Evaluation

1. T
2. F
3. T
4. F
5. F
6. F
7. T
8. T
9. c
10. a

 Name _____

Lesson 3: Setting Goals for the SAE Program Date _____

EVALUATION

Circle "T" if the statement is true or "F" if the statement is false.

T or F 1. Setting goals for the SAE program will help to produce the desired outcome.

T or F 2. Goals should only be set once a year and checked at the end of the year.

T or F 3. Setting goals can assist in obtaining FFA degrees and awards.

T or F 4. Once a goal is set, it cannot be changed.

T or F 5. Reaching goals is a very simple process that requires little effort.

T or F 6. Only students with large SAE programs should set goals.

T or F 7. Goals should be set for financial, educational, and personal reasons.

T or F 8. Setting goals will assist in measuring progress of the SAE program.

Circle the letter that corresponds to the best answer.

9. Which of the following is **not** a reason to set goals?

a. Provide a road map for the future
b. Motivation to accomplish tasks
c. Decrease competencies learned
d. Improve knowledge and skills
e. Move toward a career objective

10. Which of the following is an educational goal for the SAE program?

a. Improving skills
b. Borrowing money
c. Increasing bushels produced
d. Joining the FFA
e. Decreasing hours worked

GOALS FOR MY SAE PROGRAM

Year in Ag Ed _____

Directions: For each of the categories below, list the long-term and short-term goals you have established for your SAE program. Record the date that the goal was achieved. This sheet should be kept in your record book and checked at regular intervals to see which goals have been reached and to set new goals.

FINANCIAL	EDUCATIONAL	PERSONAL
1. _____ _____ _____Date_____	1. _____ _____ _____Date_____	1. _____ _____ _____Date_____
2. _____ _____ _____Date_____	2. _____ _____ _____Date_____	2. _____ _____ _____Date_____
3. _____ _____ _____Date_____	3. _____ _____ _____Date_____	3. _____ _____ _____Date_____
4. _____ _____ _____Date_____	4. _____ _____ _____Date_____	4. _____ _____ _____Date_____
5. _____ _____ _____Date_____	5. _____ _____ _____Date_____	5. _____ _____ _____Date_____

Student signature _____ Parent signature _____ Teacher signature _____

UNIT I - DEVELOPING AN SAE PROGRAM

Lesson 4: Selecting Projects for the SAE Program

Objective: The student will be able to outline steps that are needed to begin the SAE program.

Study Questions

1. What are my personal interests for an SAE program?
2. Where can I get help in determining what will be needed for my SAE program?
3. How will I finance my SAE program?

Reference

1) Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.

UNIT I - DEVELOPING AN SAE PROGRAM

Lesson 4: Selecting an SAE Program

TEACHING PROCEDURES

A. Review

Review the previous lesson on setting goals for the SAE program.

B. Motivation

Assume that each student has $500.00 to begin their SAE program. Based on the goals they have set in the previous lesson, each student should outline how to spend the $500.00 toward establishing their SAE program. If they need additional capital, where will it be obtained? What steps should be taken to obtain the financing? Who should be involved in the process?

C. Assignment

D. Supervised study

E. Discussion

1. One of the first steps in determining what the SAE program will consist of is to determine the student's interest. Ask students to identify their agricultural interests and develop a program based on those interests.

   What are my personal interests for an SAE program?

   Answers will vary depending on the individual student.

2. Before the student selects projects for the SAE program, he/she should be aware of the skills and competencies that are required to be successful with that SAE.

   Where can I get help in determining what will be needed for my SAE program?

   a) Previous experience
   b) People in the field
   c) Agricultural education teacher
   d) Textbooks
   e) Parents

3. Nearly all SAE programs will require some type of capital before you can begin. There are many sources of financing available to the agricultural education student. These sources should be weighed to determine which would be the best source of financing for your particular situation.

   How will I finance my SAE program?

   a) Personal - saving or checking accounts
   b) Parents - exchange of labor, or borrow from them
   c) Renting - landlord or share basis

d) Borrowing
   1) Commercial banks
   2) FmHA
   3) Missouri Department of Agriculture
   4) Farm Credit Services
      (a) Production Credit Association
      (b) Federal Land Bank Association
   5) Dealer credit
   6) Individuals
   7) Savings and loans

F. Other activities

1. Invite a local banker to discuss borrowing money for the SAE program.

2. Invite a former student to visit with the class to discuss how he/she set up their SAE program.

G. Conclusion

There are many considerations that should be made before beginning an SAE program. Personal interests, skills needed, and sources of financing for the program should be considered before it begins.

H. Competency

Select projects for the SAE program.

I. Answers to Evaluation

1. Determining your personal interests
2. Four of the following: previous experience, people in the field, agricultural education teacher, textbooks, and parents
3. Five of the following: personal, parents, renting, commercial banks, FmHA, MO Department of Agriculture, Farm Credit Services, dealer credit, individuals, and savings and loan associations

UNIT I: DEVELOPING AN SAE PROGRAM Name _____

Lesson 4: Selecting Projects for the SAE Program Date _____

EVALUATION

Complete the following short answer questions.

1. What should be the first step when selecting projects for the SAE program?

2. What are four resources that can be used to determine the skills needed to operate your SAE program?

   a.

   b.

   c.

   d.

3. What are five sources of financing for the SAE program?

   a.

   b.

   c.

   d.

   e.

DEVELOPING PROGRAMS OF SUPERVISED AGRICULTURAL EXPERIENCE

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

CONTENTS

Lesson 1–Opening the Missouri Agricultural Record Book for Secondary Students II-1
Lesson 2–Budgeting for the SAE Program II-7
HO 2.1: Table L-7. (Manual 75)
HO 2.2: Form 103 (Budget)
WS 2.1: Developing a Budget for a Sample Ownership SAE Project
WS 2.2: Developing a Budget for a Sample Placement SAE Project
Lesson 3–Inventories and Financial Statements II-27
Lesson 4–Recording Receipts and Expenditures II-35
Lesson 5–Completing Additional Records II-43

OBJECTIVES

1. The student will be able to open the record book to begin record keeping for the SAE program.
2. The student will be able to complete a budget for the SAE program.
3. The student will be able to complete inventories and financial statements for the SAE program.
4. The student will be able to record receipts and expenditures in the secondary record book.
5. The student will be able to complete additional forms in the secondary record book.

COMPETENCIES

1. Complete forms needed to open the Missouri Agricultural Record Book for Secondary Students.
2. Complete a budget for the SAE program.
3. Complete inventory and financial statement forms for the Missouri Agricultural Record Book for Secondary Students.
4. Complete receipt and expenditure forms in the Missouri Agricultural Record Book for Secondary Students.
5. Complete additional forms in the Missouri Agricultural Record Book for Secondary Students.

MOTIVATIONAL TECHNIQUE OR INTEREST APPROACH

1. To illustrate the importance of an accurate inventory, divide the class into groups of four or five and have each group inventory the classroom. After they have completed the inventory, have the groups compare their inventories. Are there differences in the number of items included in the inventory? Did each group assign the same dollar value to each item?

2. Have several completed record books on display. If possible select record books that were used to obtain an award. Also have record books that were not completed properly to illustrate the importance of neat and accurate records.

EVALUATION

1. Give short objective test following each lesson and a more in-depth objective test at the conclusion of the unit.

2. Observe the changes in behavior as evidence of an improved ability of students to deal with problems in this unit using background information acquired from earlier units.

3. Observe students' attempts to solve similar problems in their supervised agricultural experience programs.

REFERENCES AND MATERIALS

1. Student References

   a) Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.

   b) Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

   c) Sample Entries for the Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

   d) Missouri Agricultural Record Book for Secondary Students. Pads of 50 forms are available from the Instructional Materials Laboratory.

      1) Receipts Forms 2 and 1
      2) Expenditures Forms 4 and 3
      3) Cash Flow Form 5
      4) Financial Statement Form 10
      5) Profit/Loss and SAE Summary Forms 11 and 12
      6) Other FFA Activities Form 110

2. Teacher References

   a) Farm Business Management Analysis: Establishing a Farm Accounting System. University of Missouri-Columbia: Instructional Materials Laboratory, 1981.

   b) Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

   c) Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: University Extension, 1986.

   d) Sample Entries for the Missouri Agricultural Record Book for Secondary Students (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

DEVELOPING PROGRAMS OF SUPERVISED AGRICULTURAL EXPERIENCE
Unit II - Using the Missouri Agricultural Record Book for Secondary Students
Major Competency Profile

Directions: Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

Rating Scale: **3 Mastered** - can work independently with no supervision
2 Requires Supervision - can perform job completely with limited supervision
1 Not Mastered - requires instruction and close supervision
N No Exposure - no experience or knowledge in this area

3	2	1	N	Using the Missouri Agricultural Record Book for Secondary Students
				1. Complete forms needed to open the Missouri Agricultural Record Book for Secondary Students.
				2. Complete a budget for the SAE program.
				3. Complete inventory and financial statement forms for the Missouri Agricultural Record Book for Secondary Students.
				4. Complete receipt and expenditure forms in the Missouri Agricultural Record Book for Secondary Students.
				5. Complete additional forms in the Missouri Agricultural Record Book for Secondary Students.
				Other (specify):
				_____
				_____

II-iii

Developing Programs of Supervised Agricultural E ,rience

Unit II - Using the Missouri Agricultural Record Book for Secondary Students

Class/Section: _____

Students:	Complete the forms needed to open the Missouri Agricultural Record Book for Secondary Students	Complete a budget for the SAE program	Complete inventory and financial statement forms for the Missouri Agricultural Record Book for Secondary Students	Complete receipt and expenditure forms in the Missouri Agricultural Record Book for Secondary Students	Complete additional forms in the Missouri Agricultural Record Book for Secondary Students					

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Lesson 1: Opening the Missouri Agricultural Record Book for Secondary Students

Objective: The student will be able to open the record book to begin record keeping for the SAE program.

1. **Why is it important to keep records?**
2. **Which forms are needed to open the secondary record book?**
3. **What information is included in Ownership Business Agreements and Placement Training Agreements?**

References

1. Developing Program of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
3. Sample Entries for the Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
4. Sample Entries for the Missouri Agricultural Record Book for Secondary Students (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Lesson 1: Opening the Missouri Agricultural Record Book for Secondary Students

TEACHING PROCEDURES

A. Review

Review the previous unit on developing an SAE program. Stress the importance of record keeping to meet SAE program goals.

B. Motivation

Ask students the importance of keeping an accurate checkbook. Keeping accurate records is similar in that it allows the student to see how planning the cash flow of the SAE program can be important in making decisions.

C. Assignment

D. Supervised study

E. Discussion

1. Have students identify reasons for keeping records and list them on the board. Point out those that will have an immediate effect and those which will affect them at a later time.

   Why is it important to keep records?

   a) Income tax reporting
   b) Social security taxes
   c) Credit planning and relations
   d) Landlord-tenant relations
   e) Identifying strong and weak parts of the business
   f) Budgeting
   g) Applying for awards

2. Have students turn to each form in their record book as it is discussed. Briefly describe each form and its importance. Have students complete sample entries for each form, then have them complete the forms for their SAE.

   Which forms are needed to open the Missouri Agricultural Record Book for Secondary Students?

   a) Depreciation schedules (Forms 6 and 7)
   b) Inventories (Forms 8 and 9)
   c) Financial statement (Form 10)
   d) Ownership business agreement (Form 100) and/or placement training agreement (Form 101)

3. Ask students the importance of outlining the responsibilities for an SAE program. Discuss the need for agreements in both ownership and placement SAE programs.

Students should complete the forms for their SAE program. The sample entries answer key illustrates how they can be filled out.

What information is included in ownership business agreements and placement training agreements?

a) Ownership business agreements (Form 100)
   1) Kind, size, and duration of the project
   2) What the student will furnish
   3) What the other party will furnish
   4) What part of the returns the student will receive
   5) What part of the returns the other party will receive
   6) Other agreements
   7) Signatures by the agriculture education teacher, the student, the parents, and any other parties involved

b) Placement training agreements (Form 101)
   1) Personal information about the student, parents, and employer
   2) Responsibilities of the student, teacher, parents, and employer
   3) Statement of starting and ending dates, days and hours to be worked
   4) Beginning wages and wages after a trial period
   5) Signatures of the student, teacher, parents, and employer

F. Other activities

1. Have student practice completing opening forms for the record book.

2. Put together several boxes of items (each box should be identical) and divide the class into groups. Have each group inventory their box and assign values to each item. Compare the inventories and values for each group. Point out the importance of accurate records.

G. Conclusion

Completing the necessary forms to open the secondary record book is important if an accurate analysis of the project is to be made at the end of the SAE program year.

H. Competency

Complete forms needed to open the Missouri Agricultural Record Book for Secondary Students.

I. Answers to Evaluation

1. d
2. e
3. c
4. Acceptable answers should include five of the following: income tax reporting, social security taxes, credit planning and relations, landlord-tenant relations, identifying strong and weak parts of the business, budgeting, and applying for awards
5. To avoid misunderstanding in conducting the SAE program concerning responsibility for inputs, returns, and conditions

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Name _____

Lesson 1: Opening the Missouri Agricultural Record Book for Secondary Students

Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. Which form is completed to record the value and number on hand of livestock, machinery, equipment and supplies?

   a. Ownership Business Agreement
   b. Cash flow summary
   c. Budget
   d. Inventory
   e. Financial statement

2. On which form would you record the book value of machinery?

   a. Inventory
   b. Profit and loss statement
   c. Budget
   d. Cash flow summary
   e. Depreciation schedule

3. Which form provides a financial picture of the SAE program in the beginning?

   a. Cash flow summary
   b. Ownership placement agreement
   c. Financial statement
   d. Budget
   e. Placement training agreement

Complete the following short answer questions.

4. List five reasons why it is important to keep records for the SAE program.

   a.

   b.

   c.

   d.

   e.

5. Why is it important to complete ownership business and placement training agreements for the SAE program?

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Lesson 2: Budgeting for the SAE Program

Objective: The student will be able to complete a budget for the SAE program.

Study Questions

1. **What is a budget?**
2. **Where are budgets used?**
3. **Where is information obtained for budgeting?**
4. **How is a budget completed for the SAE program?**
5. **How does a budget differ from a cash flow summary?**

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
3. The Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia, College of Agriculture-Extension Division, 1986.
4. Sample Entries for the Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
5. Sample Entries for the Missouri Agricultural Record Book for Secondary Students (Answer key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]
6. Handouts
   a) HO 2.1: Table L-7 (Manual 75)
   b) HO 2.2: Form 103 (Budget)
7. Worksheets
   a) WS 2.1: Developing a Budget for a Sample Ownership SAE Project
   b) WS 2.2: Developing a Budget for a Sample Placement SAE Project

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Lesson 2: Budgeting for the SAE Program

TEACHING PROCEDURES

A. Review

Review the previous lesson on the importance of keeping records.

B. Motivation

Ask students to list situations in which they may have heard the term budget used. If a movie producer has a ten million dollar budget, what does that mean? If the producer goes over budget, what affect could it have on future jobs? Why?

C. Assignment

D. Supervised study

E. Discussion

1. Ask students to define the term "budget." Incorporate their ideas into the following definition.

   What is a budget?

   a) A budget is a plan for how money will be made and spent.
   b) Budgets help to determine potential profit, to determine the amount of inputs and capital needed, and to help in planning cash flow.

2. Budgets are used by a variety of people. When a business or organization consists of several parts or enterprises, careful planning should be done to use resources as wisely as possible.

   Where are budgets used?

   a) Individuals
   b) Schools
   c) Family
   d) Farm
   e) Government
   f) Business

3. Ask students where they could find prices and values needed to properly complete a budget for their SAE program. Show the students a copy of Manual 75 and explain how it could be used.

   Where is information obtained for budgeting?

   a) Manual 75 - to determine inputs and quantities needed to conduct livestock and crop SAE programs
   b) Records from previous years

c) Market reports
d) People in the same occupation as the SAE program area

4. Ask students why a budget would be needed for an SAE program. How could a budget help them to become a better manager? Students should complete WS 2.1 and WS 2.2. A blank copy of Table L-7 (HO 2.1) from Manual 75 and two blank budgets (HO 2.2) should be made available to each student. The worksheets may be assigned as a class or individual project. Each student should complete a budget for their SAE program and/or the enterprises within the program.

How is a budget completed for the SAE program?

a) Estimate when income will be received from the SAE program and record it on the appropriate line.
b) Estimate monthly expenditures for each input and record them on the appropriate line.
c) Determine cash balance for each month.

5. Have the students look at Form 5 and Form 103. Ask the students to describe how the forms are used differently even though the forms are identical.

How does a budget differ from a cash flow summary?

a) A budget is prepared before the program begins to estimate the success of the program.
b) A cash flow summary is completed at the end of the year to measure the success of the program.

F. Other activity

Have students go through WS 2.1 and WS 2.2 to determine if they would have the same results for their SAE. Would it cost them more or less to conduct the SAE based on individual situations? Why?

G. Conclusion

Budgets can assist you in planning the SAE program. A good budget will estimate when cash will be received and spent. It will also provide a basis for making management decisions. On the other hand, the cash flow provides a summary of actual receipts and expenditures.

H. Competency

Complete a budget for the SAE program.

I. Answers to Evaluation

1. Three of the following: market reports, Manual 75, previous records, and people in the field
2. A plan for making and spending money
3. Should be two of the following
   a) determine potential profit
   b) determine the amount of inputs and capital needed
   c) help in planning cash flow

4. A budget is a projection of the expected receipts and expenditures for the program, whereas the cash flow summary is a record of actual receipts and expenditures.

J. Answers to Worksheets

1. WS 2.1: Developing a Budget for a Sample Ownership SAE Project

   The instructor will need to determine if answers in the "analysis" section are appropriate. A completed Budget form and a completed Table L-7 are provided on the following pages.

2. WS 2.2: Developing a Budget for a Sample Placement SAE Project

   Answers have been provided for the "procedure" section and the Budget form on the following pages.

TABLE L-7. BEEF COW BUDGET, WINTER CALVING

WS 2.1.

Description of Production: January-February calves, 85% calf crop, 500 lb. calves sold in October, 15% replacement rate with 1% cow loss.

			MY FARM
1. Details of gross receipts:			
Calves sold: .85 calf minus .15 repl. hfr. = .70	.70 x 500 lbs. @ $64	$224	5,600
Cows sold: 14% culled	.14 x 975 lbs. @ $37	51	1,275
2. GROSS RECEIPTS PER COW		$275	6,875
3. Feed:			
Corn equivalent, $2.35/bu.	3 bu.	$ 7	175
Protein, salt, minerals, & additives, $10/cwt.	1.5 cwt.	15	375
Corn silage, $18.50/T.		--	
Mixed hay, $50/T.	.3 T.	15	375
Grass hay, $45/T.	1 T.	45	0
Pasture, $7/AUM	11.8 AUM	83	2,075
4. TOTAL FEED COSTS		$165	3,000
5. Machinery costs, feed preparation, etc.		$ 10	250
6. Veterinary & medicine		5	125
7. Other livestock materials & services[1]		14	350
8. Util., ins., repair, misc.		6	150
9. Operating interest[2]		11	275
10. TOTAL OTHER VARIABLE COSTS (add Lines 5 through 9)		$ 46	1,150
11. TOTAL ALL VARIABLE COSTS (Line 4 + Line 10)		$211	4,150
12. INCOME OVER VARIABLE COSTS[3] (Line 2 minus Line 11)		$ 64	2,725
13. Labor hours		7.0 hrs.	175
14. Breeding herd investment		$475	11,875

[1] Includes commission, yardage, and hauling costs as well as bull depreciation.

[2] Half of sum of Lines 4 through 8 times 11% interest. Does not include interest on breeding herd investment.

[3] Other cash costs such as real estate and property taxes, building insurance and repairs, hired labor, and other overhead expenses are to be accounted for on Form 6, FM 7536.

Credit: Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: University Extension, 1986.

FORM 103
BUDGET

RECEIPTS		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
OWNERSHIP														
Feeder Calves	1.										5,600			5,600
	2.										1,275			1,275
	3.													0
	4.													0
	5.													0
	6.													0
	7.													0
TOTAL OWNERSHIP RECEIPTS (lines 1 thru 7)	A.	0	0	0	0	0	0	0	0	0	6,875	0	0	6,875
PLACEMENT														
	8.													0
	9.													0
	10.													0
	11.													0
Exchange of Labor	12.													0
TOTAL PLACEMENT RECEIPTS (lines 8 thru 12)	B.	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SOE RECEIPTS (lines A + B)	C.	0	0	0	0	0	0	0	0	0	6,875	0	0	6,875
PERSONAL RECEIPTS														
	13.													0
	14.													0
	15.													0
	16.													0
TOTAL PERSONAL RECEIPTS (lines 13 thru 16)	D.	0	0	0	0	0	0	0	0	0	0	0	0	0
Money Borrowed	17.													
TOTAL DOLLARS AVAILABLE (lines C + D + 17)	E.	0	0	0	0	0	0	0	0	0	6,875	0	0	6,875
EXPENDITURES		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
OWNERSHIP														
Corn	18.								50	60	65			175
Protein, Salt, Mineral Mix	19.	31	31	31	31	31	31	31	32	32	32	31	31	375
Mixed Hay	20.	75	75	75								75	75	375
Pasture	21.				295	295	297	297	296	296	299			2075
Miscellaneous Costs	22.	95	95	95	95	96	96	96	96	96	96	96	96	1,150
	23.													
	24.													
Capital Purchases	25.													
TOTAL OWNERSHIP EXPENSES (lines 18 thru 25)	F.	201	201	201	421	422	424	424	474	484	492	202	202	4,150
PLACEMENT														
Wage Deductions	26.													0
	27.													0
	28.													0
Travel or Mileage	29.													0
Job Related Expenses	30.													0
TOTAL PLACEMENT EXPENSES (lines 26 thru 30)	G.	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL SOE EXPENSES (lines F + G)	H.	201	201	201	421	422	424	424	474	484	492	202	202	4,150
PERSONAL														
	31.													0
	32.													0
	33.													0
	34.													0
TOTAL PERSONAL EXPENSES (lines 31 thru 34)	I.	0	0	0	0	0	0	0	0	0	0	0	0	0
Principal Payments	35.													
TOTAL DOLLARS USED (lines H + I + 35)	J.	201	201	201	421	422	424	424	474	484	492	202	202	4,150
CASH DIFFERENCE FOR MONTH (lines E - J)	K.	-201	-201	-201	-421	-422	-424	-424	-474	-484	6,383	-202	-202	2,725
CASH BALANCE BEGIN. OF MONTH (line M, last month)*	L.													
CASH BALANCE END OF MONTH (line L + K)	M.													

*See directions for Cash Flow, number 4.

DEVELOPING A BUDGET FOR A SAMPLE PLACEMENT SAE PROJECT

SITUATION

Sally decides that she would like to work at Wilson's Greenhouse in a neighboring town for a project within her SAE program. In her agricultural education class, she is required to prepare a budget to determine how profitable it would be to have this job in her SAE program. Based on the following information, develop a budget to determine the cash flow for her SAE project.

Wilson's Greenhouse is located 20 miles from her home. Sally decides to buy a car to take her to and from work each day. In January, she borrows $2,000.00 from the bank to purchase the car. Car payments will total $150.00 per month ($125.00 for principal, $25.00 for interest). Sally's working hours will be 4:00 p.m. to 7:00 p.m. Monday through Friday for the months of January through May. During the months of June through August she will work from 8:00 a.m. to 5:00 p.m. Monday through Friday, taking a one-hour lunch break. September through December, she will return to the 4:00 p.m. to 7:00 p.m. Monday through Friday schedule.

Sally is required to buy her own uniform for work. She will have to buy two uniforms valued at $45.00 each to get through the year. It will cost Sally twenty cents per mile to drive her car to work. (This figure includes fuel, lubrication, tires, and general maintenance.) Insurance will cost Sally $145 every six months. She pays her insurance premiums in March and September. Sally is paid $5.00 per hour. Fifteen percent (on the average) of her wages is deducted for taxes.

PROCEDURE

Use the above information to calculate the answers below. Transfer the appropriate information to the budget form provided.

1. Calculate the number of hours Sally will work each month (assume there are 20 working days for each month.)

   Jan. - May and Sept. - Dec. = 60 hours per month.
   June, July, and August = 160 hours per month.

2. If Sally is paid $5.00 per hour, what would be her total earnings before deductions for each month? Record the total amount of wages for each month before deductions on line 8 of the budget (Form 103).

   $5.00/hr. x 60 hrs./month = $ 300.00 for Jan. - May and Sept. - Dec.
   $5.00/hr. x 160 hrs./month = $ 800.00 for June, July, and August

3. Determine the total amount of wage deductions for each month. Record the amount for each month on line 26 of Form 103.

   15% x $ 300.00/month for Jan. - May and Sept. - Dec. = $ 45.00 deductions/month.
   15% x $ 800.00/month for June, July, and August = $ 120.00 deductions/month.

4. Sally drives 40 miles per day round-trip to work. It will cost her .20/mile to drive her car. If she works 20 days per month, how much does she spend each month for gas? (Each month will be the same since she works five days per week for the entire year.)

40 miles/day x 20 days = 800 miles/month x .20/mile = $160.00/month

Record the total amount spent each month for gas on line 31 of Form 103.

5. Record the $145.00 spent in March and September for insurance on line 32 of the budget.

6. On line 30 of form 103 record the $45.00 spent for each uniform purchased in January and June.

7. Record the amount of principal borrowed for the purchase of the car in January on line 17 of Form 103. Also record the total borrowed on line 33 as an expense when she paid the dealer for the car.

8. Sally must make car payments each month of $150.00. The amount of principal paid ($125.00) should be recorded on line 35 and the interest paid ($25.00) should be recorded on line 27 for each month.

9. Summarize the receipts section of the budget by entering totals on lines A, B, C, D, and E.

10. Summarize the expenditures section by entering totals on lines F, G, H, I, and J of the budget.

11. Calculate line K. (line E - line J)

12. Sally has $300.00 in her savings account at the beginning of the year. This amount should be recorded on line L for January.

13. Calculate line M (line L + K)

What was Sally's cash balance at the end of the year? $ 535.00

What would be the advantages and disadvantages for Sally if she were to work at Wilson's Greenhouse as a part of her SAE program?

Advantages -
1.) Sally makes a profit from the SAE program.
2.) Sally achieves a new level of independence by earning the money to purchase her own car.
3.) Her SAE program will allow her to advance one degree in the FFA.
4.) Sally has gained valuable work experience.

Disadvantages -
1.) There is lengthy travel to and from work each day.
2.) Sally's expenses are greater than her income when she only works 3 hours/da

What possible ways could Sally increase her income over expenses in this situation?

1.) Work more hours during January - May and September - December.
2.) Carpool to work if possible.

FORM 103
BUDGET

RECEIPTS		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
OWNERSHIP														
	1.													0
	2.													0
	3.													0
	4.													0
	5.													0
	6.													0
	7.													0
TOTAL OWNERSHIP RECEIPTS (lines 1 thru 7)	A.	0	0	0	0	0	0	0	0	0	0	0	0	0
PLACEMENT														
Wilson's Greenhouse	8.	300	300	300	300	300	800	800	800	300	300	300	300	5,100
	9.													0
	10.													0
	11.													0
Exchange of Labor	12.													0
TOTAL PLACEMENT RECEIPTS (lines 8 thru 12)	B.	300	300	300	300	300	800	800	800	300	300	300	300	5,100
TOTAL SOE RECEIPTS (lines A + B)	C.	300	300	300	300	300	800	800	800	300	300	300	300	5,100
PERSONAL RECEIPTS														
	13.													0
	14.													0
	15.													0
	16.													0
TOTAL PERSONAL RECEIPTS (lines 13 thru 16)	D.	0	0	0	0	0	0	0	0	0	0	0	0	0
Money Borrowed	17.	2,000												2,000
TOTAL DOLLARS AVAILABLE (lines C + D + 17)	E.	2,300	300	300	300	300	800	800	800	300	300	300	300	7,100
EXPENDITURES		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
OWNERSHIP														
	18.													0
	19.													0
	20.													0
	21.													0
	22.													0
	23.													0
	24.													0
Capital Purchases	25.													0
TOTAL OWNERSHIP EXPENSES (lines 18 thru 25)	F.	0	0	0	0	0	0	0	0	0	0	0	0	0
PLACEMENT														
Wage Deductions	26.	45	45	45	45	45	120	120	120	45	45	45	45	765
	27.													0
	28.													0
Travel or Mileage	29.													0
Job Related Expenses	30.	45					45							90
TOTAL PLACEMENT EXPENSES (lines 26 thru 30)	G.	90	45	45	45	45	165	120	120	45	45	45	45	855
TOTAL SOE EXPENSES (lines F + G)	H.	90	45	45	45	45	165	120	120	45	45	45	45	855
PERSONAL														
Automobile Expense to work	31.	160	160	160	160	160	160	160	160	160	160	160	160	1,920
Insurance	32.			145						145				290
Car Purchase	33.	3000												2,000
Interest	34.	25	25	25	25	25	25	25	25	25	25	25	25	300
TOTAL PERSONAL EXPENSES (lines 31 thru 34)	I.	185	185	330	185	185	185	185	185	330	185	185	185	4510
Principal Payments	35.	125	125	125	125	125	125	125	125	125	125	125	125	1,500
TOTAL DOLLARS USED (lines H + I + 35)	J.	2400	355	500	355	355	475	430	430	500	355	355	355	6,865
CASH DIFFERENCE FOR MONTH (lines E - J)	K.	-100	-55	-200	-55	-55	325	370	370	-200	-55	-55	-55	235
CASH BALANCE BEGIN. OF MONTH (line M, last month)*	L.	300	200	145	-55	-110	-165	160	530	900	700	645	590	300
CASH BALANCE END OF MONTH (line L + K)	M.	200	145	-55	-110	-165	160	530	900	700	645	590	535	535

*See directions for Cash Flow, number 4.

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Name _____

Lesson 2: Budgeting for the SAE Program

Date _____

EVALUATION

Complete the following short answer questions.

1. What are three sources that could provide the value of inputs needed for the SAE program?

   a.

   b.

   c.

2. What is a budget?

3. Name two reasons why budgets are used.

   a.

   b.

4. How is a budget different from a cash flow summary?

TABLE L-7. BEEF COW BUDGET, WINTER CALVING HO 2.1

Description of Production: January-February calves, 85% calf crop, 500 lb. calves sold in October, 15% replacement rate with 1% cow loss.

			MY FARM
1. Details of gross receipts:			
Calves sold: .85 calf minus .15 repl. hfr. = .70	.70 x 500 lbs. @ $64	$224	
Cows sold: 14% culled	.14 x 975 lbs. @ $37	51	
2. GROSS RECEIPTS PER COW		$275	
3. Feed:			
Corn equivalent, $2.35/bu.	3 bu.	$ 7	
Protein, salt, minerals, & additives, $10/cwt.	1.5 cwt.	15	
Corn silage, $18.50/T.		--	
Mixed hay, $50/T.	.3 T.	15	
Grass hay, $45/T.	1 T.	45	
Pasture, $7/AUM	11.8 AUM	83	
4. TOTAL FEED COSTS		$165	
5. Machinery costs, feed preparation, etc.		$ 10	
6. Veterinary & medicine		5	
7. Other livestock materials & services[1]		14	
8. Util., ins., repair, misc.		6	
9. Operating interest[2]		11	
10. TOTAL OTHER VARIABLE COSTS (add Lines 5 through 9)		$ 46	
11. TOTAL ALL VARIABLE COSTS (Line 4 + Line 10)		$211	
12. INCOME OVER VARIABLE COSTS[3] (Line 2 minus Line 11)		$ 64	
13. Labor hours		7.0 hrs.	
14. Breeding herd investment		$475	

[1] Includes commission, yardage, and hauling costs as well as bull depreciation.

[2] Half of sum of Lines 4 through 8 times 11% interest. Does not include interest on breeding herd investment.

[3] Other cash costs such as real estate and property taxes, building insurance and repairs, hired labor, and other overhead expenses are to be accounted for on Form 6, FM 7536.

Credit: Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: University Extension, 1986.

FORM 103
BUDGET

RECEIPTS		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
OWNERSHIP														
	1.													
	2.													
	3.													
	4.													
	5.													
	6.													
	7.													
TOTAL OWNERSHIP RECEIPTS (lines 1 thru 7)	A.													
PLACEMENT														
	8.													
	9.													
	10.													
	11.													
Exchange of Labor	12.													
TOTAL PLACEMENT RECEIPTS (lines 8 thru 12)	B.													
TOTAL SOE RECEIPTS (lines A + B)	C.													
PERSONAL RECEIPTS														
	13.													
	14.													
	15.													
	16.													
TOTAL PERSONAL RECEIPTS (lines 13 thru 16)	D.													
Money Borrowed	17.													
TOTAL DOLLARS AVAILABLE (lines C + D + 17)	E.													
EXPENDITURES		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
OWNERSHIP														
	18.													
	19.													
	20.													
	21.													
	22.													
	23.													
	24.													
Capital Purchases	25.													
TOTAL OWNERSHIP EXPENSES (lines 18 thru 25)	F.													
PLACEMENT														
Wage Deductions	26.													
	27.													
	28.													
Travel or Mileage	29.													
Job Related Expenses	30.													
TOTAL PLACEMENT EXPENSES (lines 26 thru 30)	G.													
TOTAL SOE EXPENSES (lines F + G)	H.													
PERSONAL														
	31.													
	32.													
	33.													
	34.													
TOTAL PERSONAL EXPENSES (lines 31 thru 34)	I.													
Principal Payments	35.													
TOTAL DOLLARS USED (lines H + I + 35)	J.													
CASH DIFFERENCE FOR MONTH (lines E - J)	K.													
CASH BALANCE BEGIN. OF MONTH (line M, last month)*	L.													
CASH BALANCE END OF MONTH (line L + K)	M.													

*See directions for Cash Flow, number 4.

DEVELOPING A BUDGET FOR A SAMPLE OWNERSHIP SAE PROJECT

SITUATION

1. January-February calves, 85% calf crop, 500 lb. calves sold in October, 15% replacement rate with 1% cow loss.
2. There are 25 cows in the herd.
3. The cows are fed a corn-grain mix as well as a protein, salt, and mineral supplement.
4. Mixed hay and pasture will be used to complete the ration.

The information for budgeting for the above situation may be found on Table L-7 of the Missouri Farm Planning Handbook (1986 edition). You should look at a copy of this budget to complete this worksheet. Table L-7 may be used alone to estimate if an enterprise will be profitable. By transferring the information to a budget (Form 103) you can determine the estimated receipts for each month to determine if cash will be available to pay the expenses.

PROCEDURE

The following steps should be followed in order to budget for the situation listed above. Once the value of the receipts and expenses is determined it should be transferred to Form 103 (Budget) of the Missouri Agricultural Record Book for Secondary Students. The values listed do not have to be used to work a budget, but have been compiled as averages for a number of years. If you feel the value given is too high or too low, you may substitute a value that is appropriate for the local market.

1. For Gross Receipts (line 1, Table L-7), the value of calves sold accounts for the value of calves lost and replacement heifers. Write the value of calves in your SAE program in the "My Farm" column. For example, there are 25 cows in the herd, so you will take $224.00 x 25 calves to determine the value of the calves, since values listed are given on a per head basis. Even though there was a death loss, the value of the calves lost was deducted before a value was assigned. The total value of the calves equals $5,600.00 ($224.00 x 25 head).

   The value should be transferred to the budget for the month(s) when the receipt is expected. The situation described at the beginning of the worksheet stated that calves would be sold in October. Write "Feeder calves" on line 1 of Form 103 and enter $5,600.00 for the month of October.

   The second value given on Table L-7 for gross receipts is for cows sold. Assume that you cull your cows each year and the cull value per head is $51.00. The value for your farm would be equal to $1,275.00 ($51.00 x 25 head). Write "Cull cows" on line 2 of Form 103 and enter $1,275.00 in October.

2. Total the gross receipts for the herd by adding all of the receipts in box 1. The total gross receipts per cow ($275.00) is multiplied by 25 to find the receipts for your SAE project. The total is $6,875.00 ($5,600.00 + $1,275.00 or $275 x 25hd). Go back to Form 103 and total lines 1 and 2, as well as line A to check the accuracy of the transferred numbers. Total lines B, C, D, and E on Form 103.

3. Refer to the situation description at the beginning to determine the type of feed that will be fed to the herd. Complete this section the same as the receipts section, except the

expenses will be transferred to lines 18 through 21 on Form 103. Divide the expenses to the months they are most likely to occur. For example, expenses for mixed hay will be recorded during the winter months when the hay will be used for feed. Any feed listed in this section that will not be fed to your herd has a value of "0" under the "My Farm" section.

4. Total Feed Costs - Add the value of all feeds in section three to determine the total cost of feed for your herd.

5. Use the values listed (x 25 head) for each cost and transfer these costs as a lump sum (miscellaneous costs) to Form 103. Divide the total cost by 12 and record that value for each month (Jan. - Dec.).

6. Determine totals for each line (for the "My Farm" column on Table L-7) by following the directions for each line. These totals are not transferred to Form 103, but are used for analysis purposes.

7. Total lines 18 through 25 on Form 103 (Budget).

8. Total lines F, G, H, I, and J of Form 103. The total for line F of Form 103 should be the same as the total for line 11 of Table L-7. If not, an error in transferring has occurred.

9. Calculate line K of Form 103. The total for line K should be equal to the total of line 12 of Table L-7.

ANALYSIS

1. Based on the completed budget, will the cow/calf operation be profitable?

2. What effect would decreasing the price received for each calf at market time have on the profits gained from the herd?

3. What effect on profitability would occur if grass hay were fed instead of mixed hay?

4. Go to line K of Form 103. What problems in the cash difference for the month exists? How can these problems be solved?

5. How much estimated labor time will be required for the herd?

6. What will be the total breeding herd investment?

DEVELOPING A BUDGET FOR A SAMPLE PLACEMENT SAE PROJECT

SITUATION.

Sally decides that she would like to work at Wilson's Greenhouse in a neighboring town for a project within her SAE program. In her agricultural education class, she is required to prepare a budget to determine how profitable it would be to have this job in her SAE program. Based on the following information, develop a budget to determine the cash flow for her SAE project.

Wilson's Greenhouse is located 20 miles from her home. Sally decides to buy a car to take her to and from work each day. In January, she borrows $2,000.00 from the bank to purchase the car. Car payments will total $150.00 per month ($125.00 for principal, $25.00 for interest). Sally's working hours will be 4:00 p.m. to 7:00 p.m. Monday through Friday for the months of January through May. During the months of June through August she will work from 8:00 a.m. to 5:00 p.m. Monday through Friday, taking a one-hour lunch break. September through December, she will return to the 4:00 p.m. to 7:00 p.m. Monday through Friday schedule.

Sally is required to buy her own uniform for work. She will have to buy two uniforms valued at $45.00 each to get through the year. It will cost Sally twenty cents per mile to drive her car to work. (This figure includes fuel, lubrication, tires, and general maintenance.) Insurance will cost Sally $145 every six months. She pays her insurance premiums in March and September. Sally is paid $5.00 per hour. Fifteen percent (on the average) of her wages is deducted for taxes.

PROCEDURE

Use the above information to calculate the answers below. Transfer the appropriate information to the budget form provided.

1. Calculate the number of hours Sally will work each month (assume there are 20 working days for each month.)

   Jan. - May and Sept. - Dec. = _____ hours per month.
   June, July, and August = _____ hours per month.

2. If Sally is paid $5.00 per hour, what would be her total earnings before deductions for each month? Record the total amount of wages for each month before deductions on line 8 of the budget (Form 103).

   $5.00/hr. x _____ hrs./month = $_____ for Jan. - May and Sept. - Dec.
   $5.00/hr. x _____ hrs./month = $_____ for June, July, and August

3. Determine the total amount of wage deductions for each month. Record the amount for each month on line 26 of Form 103.

   15% x $_____/month for Jan. - May and Sept. - Dec. = $_____deductions/month.
   15% x $_____/month for June, July, and August = $_____ deductions/month.

4. Sally drives 40 miles per day round-trip to work. It will cost her .20/mile to drive her car. If she works 20 days per month, how much does she spend each month for gas? (Each month will be the same since she works five days per week for the entire year.)

40 miles/day x 20 days = _____ miles/month x .20/mile = $_____/month

Record the total amount spent each month for gas on line 31 of Form 103.

5. Record the $145.00 spent in March and September for insurance on line 32 of the budget.

6. On line 30 of form 103 record the $45.00 spent for each uniform purchased in January and June.

7. Record the amount of principal borrowed for the purchase of the car in January on line 17 of Form 103. Also record the total borrowed on line 33 as an expense when she paid the dealer for the car.

8. Sally must make car payments each month of $150.00. The amount of principal paid ($125.00) should be recorded on line 35 and the interest paid ($25.00) should be recorded on line 27 for each month.

9. Summarize the receipts section of the budget by entering totals on lines A, B, C, D, and E.

10. Summarize the expenditures section by entering totals on lines F, G, H, I, and J of the budget.

11. Calculate line K. (line E - line J)

12. Sally has $300.00 in her savings account at the beginning of the year. This amount should be recorded on line L for January.

13. Calculate line M (line L + K)

What was Sally's cash balance at the end of the year? $ _____

What would be the advantages and disadvantages for Sally if she were to work at Wilson's Greenhouse as a part of her SAE program?

Advantages -

Disadvantages -

What possible ways could Sally increase her income over expenses in this situation?

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Lesson 3: Inventories and Financial Statements

Objective: The student will be able to complete inventories and financial statements for the SAE program.

Study Questions

1. Why is it important to keep an accurate inventory?
2. How are beginning inventories completed?
3. What is a beginning financial statement?
4. How is a beginning financial statement completed?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference) University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Missouri Agricultural Record Book for Secondary Students: University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
3. Sample Entries for the Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
4. Sample Entries for the Agricultural Record Book for Secondary Students (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]

UNIT II - USING THE SECONDARY RECORD BOOK

Lesson 3: Inventories and Financial Statements

TEACHING PROCEDURES

A. Review

Discuss with students how budgets should be in agreement with the information that is found on inventory and financial statement forms.

B. Motivation

Ask students how much they are worth at the present time. How will they know? If they want to improve their net worth, what steps would they take?

C. Assignment

D. Supervised study

E. Discussion

1. Ask students how an inaccurate inventory can affect their SAE program in the short run and the long run?

   Why is it important to keep an accurate inventory?

   a) Inventories are necessary to determine the earnings of a year's business.
   b) Inaccurate inventories will cause the analysis at the end of the year to be wrong by showing that more or less growth occurred than actually did.

2. Discuss with students when inventory should be taken. How do you determine what should be inventoried? Explain to students that raised breeding livestock should be valued at the safe harbor value, if used, or valued at a long-range market value. Have students look at each form as it discussed. Have students complete the forms using information from the sample entries and their SAE programs.

   How are beginning inventories completed?

   a) Inventories are necessary to determine the earnings of a year's business.
   b) An inventory should be taken on the day record keeping begins and recorded on Forms 8 and 9.
   c) Inventory of Livestock/Animals (Form 8)
      1) A physical count should be taken of the livestock on hand at the beginning and end of the year. Head, quantities, price/unit, and total value should be recorded.
      2) The livestock inventory form is divided into breeding and non-breeding livestock. Blanks are provided to record the enterprise that is being inventoried.
      3) Inventory values for purchased livestock are transferred from the depreciation schedule (Form 7). Non-breeding livestock are valued at market price.

4) Form 8, line A is calculated by totaling the value of all breeding livestock.
5) Form 8, line B is calculated by totaling the value of all non-breeding livestock.
6) Total inventory value of livestock (Form 8, line C) is found by adding lines A and B.

d) Inventory of Crops, Supplies, Machinery, Buildings, and Land (Form 9)
1) A physical count should be taken of crops and supplies on hand at the beginning and end of the year. Units, number of units, price/unit, and total value should be recorded. The value of growing crops is equal to the amount of money that is invested in them when the inventory is completed.
2) Machinery and equipment value to be recorded on Form 9, line 13 is found on Form 6, line A. Lines 14 through 16 are provided to list machinery and equipment that are not depreciated.
3) The inventory value of buildings to be recorded on Form 9, line D is found on Form 6, line B.
4) The inventory value of land to be recorded on Form 9, line E is found on Form 6, line C.
5) Livestock inventory totals to be recorded on Form 9, line G are transferred from Form 8, line C.
6) The increase or decrease in inventory is calculated by subtracting Form 9, line H at the start of the year from Form 9, line H at the end of the year. The resulting number should be entered on Form 9, line I. If the end of the year inventory is larger than the start of the year, the "+" should be circled. If the end of the year inventory is less than the start of the year inventory, the "-" should be circled.

3. Explain the importance of increasing net worth as opposed to just increasing cash flow. When would a student need to know his or her net worth? How could a financial statement help students to determine the progress of their SAE program? Have students look at the financial statement (Form 10) as each section is discussed.

What is a beginning financial statement?

a) Provides a comparison of the beginning of the year net worth to the end of the year net worth
b) Divided into four sections
1) Assets - non-business, current business, intermediate business, and fixed business
2) Liabilities - current, intermediate, and fixed
3) Net worth - total assets minus total liabilities
4) Financial statement analysis - completed during the record book summary

4. The accuracy of the financial statement greatly depends on how accurately the information is transferred to the form. Stress the importance of transferring the right numbers to the right line. Have students complete the financial statement using information from the sample entries and their SAE programs.

How is a beginning financial statement completed?

a) Most of the information for the financial statement is transferred from the inventory and depreciation schedules.
b) Non-business assets are not recorded on any other place in the record and must be valued at the time that the financial statement is completed.

c) Lines 9 and 10 are the amount of cash in the business account or accounts receivable at the beginning of the SAE program.
d) Line 23 is used to record any money you owe to another person or institution that is not related to the SAE program.

F. Other activity

Divide the class into small groups. Have each group inventory the classroom. Point out how important it is to assign accurate values to items being inventoried.

G. Conclusion

Inventories and financial statements play a critical role in the analysis of the SAE program. Accuracy should be maintained so that the analysis is correct and the proper business decisions may be made and success be achieved.

H. Competency

Complete inventory and financial statement forms for the Missouri Agricultural Record Book for Secondary Students.

I. Answers to Evaluation

1. c
2. b
3. inventories and depreciation schedules
4. assets, liabilities, net worth, and financial analysis

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Name_____

Lesson 3: Inventories and Financial Statements

Date_____

EVALUATION

Circle the letter that corresponds to the best answer.

1. What is taken at the beginning of the year that records the amount, number of head, and value of the SAE program?

   a. Beginning financial statement
   b. Cash flow summary
   c. Beginning inventory
   d. Budget
   e. Ending inventory

2. What provides a comparison of the beginning net worth to the ending net worth of the SAE program?

   a. Cash flow summary
   b. Financial statement
   c. Profit or loss statement
   d. Beginning inventory
   e. Depreciation schedule

Complete the following short answer questions.

3. Where is most of the information needed to complete the financial statement found?

4. What are the four sections of the financial statement?

   a.
   b.
   c.
   d.

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Lesson 4: Recording Receipts and Expenditures

Objective: The student will be able to record receipts and expenditures in the secondary record book.

Study Questions

1. How are receipts recorded in the record book?
2. How are expenditures recorded in the record book?
3. How are receipt and expenditure pages totalled at the end of the month?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
3. Sample Entries for the Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
4. Sample Entries for the Missouri Agricultural Record Book for Secondary Students (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Lesson 4: Recording Receipts and Expenditures

TEACHING PROCEDURES

A. Review

Review the previous lesson on opening the record book. Emphasize the importance of accuracy when completing opening forms in analyzing the SAE program.

B. Motivation

Ask students where information needed to complete a tax return is obtained. How can keeping accurate receipts and expenditures assist in maximizing after-tax income?

C. Assignment

D. Supervised study

E. Discussion

1. Discuss the importance of establishing a consistent method of recording receipts. The sample entries and answer key for the secondary record book should be used to illustrate recommended methods for recording receipts and expenditures.

   How are receipts recorded in the record book?

   a) Establish a monthly system of recording receipts.
   b) The month, year, and page number should be recorded at the top of each form.
   c) Label the column headings to fit the SAE program. Make sure headings are consistent for all receipt forms. Refer to the green tab for possible headings.
   d) Date, total receipt, detailed description, directed experience, unpaid hours, and amount should be recorded on Form 1.
   e) Ownership, placement, and personal receipts can be recorded on Forms 1 and 2.
      1) columns 1 through 7 - ownership receipts
      2) columns 8 through 12 - placement receipts
      3) columns 13 through 16 - personal receipts
   f) Record the total amount in the "total receipts" column, as well as in the appropriate column (1 - 17).
   g) When using enterprise accounting also record the figure in the appropriate column under the "Distribution of Enterprise Receipts" section.
   h) If more than one page is needed to record receipts for the month, the page should be subtotalled and the subtotals carried forward to the next page.
   i) Record money borrowed in column 17.
   j) Exchange of labor is recorded as both a receipt and an expenditure and should be recorded monthly if possible.
   k) Gross pay is recorded as a receipt, while wage deductions are recorded as an expense.

2. Discuss the importance of establishing a consistent method for recording expenditures in the record book. The sample entries and answer key should be used to illustrate the recommended methods for recording expenditures.

How are expenditures recorded in the record book?

a) Establish a monthly system of recording expenditures.
b) Directions for recording expenditures can be found on the pink tab preceding the expenditures section.
c) The month, year, and page number should be recorded at the top of each form.
d) Label the column headings to fit the SAE program. Make sure headings are consistent for all expenditure forms. Refer to the pink tab for possible headings.
e) Date, total cost, check number, detailed description, and amount should be recorded on Form 3.
f) Ownership, placement, and personal expenditures can be recorded on Forms 3 and 4.

   1) columns 18 through 25 - ownership expenditures
   2) columns 26 through 30 - placement expenditures
   3) columns 31 through 34 - personal expenditures

g) Record the total expenditure in the "total costs" column, as well as in the appropriate column (18 - 35).
h) When using enterprise accounting also record the figure in the approprate column under the "Distribution of Enterprise Expenditures" section.
i) If more than one page is needed to record the expenses for the month, the page should be subtotalled and the subtotals carried forward to the next page.
j) Record principal paid in column 35.
k) Exchange of labor is recorded as an expenditure as well as a receipt. If the exchange was for feed, the expenditure should be recorded in the "Feed" column (Column 18 in the sample entries).
l) Wage deductions from payroll checks are recorded in column 26 of Form 4.

3. Discuss with students the importance of totalling receipt and expenditure pages at the end of each month. Not only will it save time when doing end-of-the-year summaries, but it will allow students to do a limited analysis of the progress of the SAE program.

How are receipt and expenditure pages totalled at the end of the month?

a) When the last transaction is recorded for the month, all columns should be totalled on the following line.
b) Draw a red line directly below the last line of transactions, just above the monthly totals.
c) Transfer monthly totals to the Cash Flow Summary (Form 5).
d) Skip one line to begin the next month's entries.
e) For the months when there are no entries, the month should be totalled and a "0.00" should be entered on the total line to assure that the month was not just skipped.

F. Other activities

1. Have students practice recording different types of receipts and expenditures.

2. Enter the outstanding beginning record book in the Area Leadership Contest.

G. Conclusion

It is important that a consistent method of recording receipts and expenditures be adopted by the student. Accuracy in recording receipts and expenditures will provide a more accurate end-of-the-year analysis of the SAE program.

H. Competency

Complete receipt and expenditure forms in the Missouri Agricultural Record Book for Secondary Students.

I. Answers to Evaluation

1. When they occur or at least once a month.
2. To show that it costs to provide the inputs needed for the SAE program and to illustrate how the inputs were paid for through placement.
3. Total cost of facilities is recorded as an expenditure and as a receipt in the placement section.
4. Total gross pay is recorded as a receipt and total wage deductions are recorded as expenditures.
5. Cash flow summary

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Name_____

Lesson 4: Recording Receipts and Expenditures

Date_____

EVALUATION

Complete the following short answer questions.

1. When should receipts and expenditures be recorded?

2. Why should exchange of labor be recorded as both an expense and a receipt?

3. How is the use of facilities not owned by the student recorded in the record book?

4. How are payroll checks with wage deductions recorded?

5. After totalling receipts and expenditures for the month, what should be the next step?

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Lesson 5: Completing Additional Records

Objective: The student will be able to complete additional forms in the record book.

Study Questions

1. What additional records should be kept each month?
2. What is the purpose of the additional forms?
3. Why should these records be kept monthly, as opposed to yearly?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
3. Sample Entries for the Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
4. Sample Entries for the Missouri Agricultural Record Book for Secondary Students (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]

UNIT II - USING THE MISSOURI AGRICULTURAL RECORD BOOK FOR SECONDARY STUDENTS

Lesson 5: Completing Additional Records

TEACHING PROCEDURES

A. Review

Review the previous lesson on recording receipts and expenditures. Explain how the same information may be used to complete additional forms in the record book.

B. Motivation

Have a former student who has been a proficiency award winner or holds the American FFA Degree or State FFA Degree talk to the class about the importance of keeping additional information in the record book to fill out award applications.

C. Assignment

D. Supervised study

E. Discussion

1. Ask students what information about their SAE program could be helpful in earning awards and degrees. Where could this information be recorded?

   What additional records should be kept each month?

   a) Competencies List (Form 102)
   b) Loan and Interest Record (Form 105)
   c) Breeding and Performance Record (Form 106)
   d) Show Record (Form 107)
   e) FFA Leadership and Participation (Form 108)
   f) Leadership and Participation Other Than FFA (Form 109)
   g) Other FFA Activities (Form 110)
   h) Proficiency Award Information (Form 111)

2. Have students turn to each form in their record books as the form is discussed. Explain how each form is used and where the information contained on the form may be applied. Have students complete forms as appropriate for their SAE program.

   What is the purpose of the additional forms?

   a) Competencies List (Form 102)
      1) List skills and competencies gained by the student as a result of the SAE program.
      2) Rate the level of performance by the student for each competency.
      3) Obtain skills and competencies from competency profiles, good management practices, or people in the field of the SAE program.
   b) Loan and Interest Record (Form 105)
      1) Record information for loan used for the SAE program.
      2) Record the amount of principal and interest paid each time a payment is made.

3) Keep a balance of the amount of unpaid principal for the loan.

c) Breeding and Performance Record (Form 106)
   1) Record dam and sire information for livestock.
   2) Keep track of breeding dates, due dates, and birth dates.
   3) Record number born and birth weight.
   4) Indicate performance information.
      (a) Weaning weight
      (b) Market date
      (c) Market weight
      (d) Daily gain
      (e) Additional comments about conditions that might affect breeding or performance of the particular livestock

d) Show Record (Form 107)
   1) Record date and name of show attended.
   2) Record performance at the show or fair.
      (a) Class or event
      (b) Animal or item
      (c) Placing
      (d) Premiums won
      (e) Show expenses
      (f) Profit or loss
   3) Use the show record for all types of fair or show entries (e.g., livestock, agriculture mechanics, field crops, horticulture).
   4) Expenses and receipts from participation in fairs and shows should also be recorded in the receipts and expenses sections (Forms 1 - 4).

e) FFA Leadership and Participation (Form 108) - Record activities and responsibilities in the FFA, as well as the level in which they were conducted.
   1) Degrees received
   2) FFA offices held
   3) Proficiency, achievement, and other awards
   4) Contest teams
   5) Committee participation and responsibility

f) Leadership and Participation Other Than FFA (Form 109) - Indicate major activities, awards, and leadership activities outside the FFA.

g) Other FFA Activities (Form 110)
   1) Use to record information not listed on Form 108.
   2) Record activities and responsibilities for additional FFA activities.

h) Proficiency Award Information (Form 111) - Use to record information that will assist in completing a proficiency award application.
   1) Year and nature of the activity
   2) Expenditures involved
   3) Receipts
   4) Responsibilities and accomplishments
   5) Amount of time involved
   6) Related proficiency award area for the activity.

3. Ask students how often records should be entered into the record book. Stress that the more often records are entered, the more accurate the records are likely to be. Class time should be allocated each month to assist students in updating their records.

   Why should these records be kept monthly, as opposed to yearly?

   a) Keeping records monthly will improve accuracy since information will have less of a chance of being forgotten.

b) Less time will be needed at the end of the year to summarize the record book.

F. Other activities

1. Provide examples of well-kept record books for students to look through.

2. Enter the outstanding beginning and advanced record book in the area FFA contest.

3. Display outstanding record books at the FFA Parent/Member Banquet.

G. Conclusion

Receipts and expenses are not the only items that may be recorded in the Missouri Agricultural Record Book for Secondary Students. A wide array of additional information may be recorded that can assist the student when applying for degrees and awards and analyzing the SAE program.

H. Competency

Complete additional forms in the Missouri Agricultural Record Book for Secondary Students.

I. Answers to Evaluation

1. Loan and interest record
2. Complete award applications
   Check the progress of the SAE program
3. Four of the following: competency lists, loan and interest record, breeding and performance records, show record, FFA leadership and participation, leadership and participation other than FFA, other FFA activities, proficiency award information.
4. Improve accuracy
   Check for error when transferring to cash flow
   Save time when summarizing the record book

UNIT II - USING THE MISSOURI AGRICULTURE RECORD BOOK FOR SECONDARY STUDENTS

Name _____

Lesson 5: Completing Additional Records

Date _____

EVALUATION

Complete the following short answer questions.

1. What form is used to record the amount of money borrowed for the SAE program and the date and amount repaid?

2. Why are additional records kept for the SAE program?

3. What are four types of additional records to be kept for the SAE program?

   a.

   b.

   c.

   d.

4. Why should additional records be updated each month instead of each year?

DEVELOPING PROGRAMS OF SUPERVISED AGRICULTURAL EXPERIENCE

UNIT III - ANALYZING THE SAE PROGRAM

CONTENTS

Lesson 1–Summarizing the Missouri Agricultural Record Book for Secondary Students III-1
Lesson 2–Completing Forms for Analysis III-9
Lesson 3–Evaluating and Improving the SAE Program III-17
Lesson 4–Award Applications III-23
Lesson 5–Changing to the Missouri Farm Business Record Book (Optional) III-29

OBJECTIVES

1. The student will be able to complete forms needed to summarize the SAE program.
2. The student will be able to complete the forms needed to analyze the SAE program.
3. The student will be able to complete the forms needed to evaluate the SAE program.
4. The student will be able to identify awards that are available based on the SAE program.
5. The student will be able to determine if the Missouri Farm Business Record Book should be used for the SAE program.

COMPETENCIES

1. Complete summary forms in the Missouri Agricultural Record Book for Secondary Students.
2. Complete the analysis forms in the Missouri Agricultural Record Book for Secondary Students.
3. Analyze and evaluate the SAE program.
4. Identify awards that may be earned as a result of the SAE program.
5. Determine if and when the Missouri Farm Business Record Book should be used.

MOTIVATIONAL TECHNIQUE OR INTEREST APPROACH

1. Prepare a bulletin board display with pictures of previous award winners. Include a brief description of the requirements for each award displayed.
2. Have a local agribusiness manager discuss the importance of analyzing the business. Discuss how analyzing an agribusiness is much like analyzing the SAE program. Point out that the record keeping system is a key component in the analysis of the business or SAE program.

EVALUATION

1. Give short objective test following each lesson and a more in-depth objective test at the conclusion of the unit.

2. Observe the changes in behavior as evidence of an improved ability of students to deal with problems in this unit using background information acquired from earlier units.

3. Observe students' attempts to solve similar problems in their supervised agricultural experience programs.

REFERENCES AND MATERIALS

1. Student References

   a) Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.

   b) Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

   c) Sample Entries for the Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

   d) Missouri Agricultural Record Book for Secondary Students. Pads of 50 forms are available from the Instructional Materials Laboratory.

      1) Receipts Forms 2 and 1
      2) Expenditures Forms 4 and 3
      3) Cash Flow Form 5
      4) Financial Statement Form 10
      5) Profit/Loss and SAE Summary Forms 11 and 12
      6) Other FFA Activities Form 110

   e) Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988. [For Lesson 5 only]

2. Teacher References

   a) Farm Business Management Analysis: Establishing a Farm Accounting System. University of Missouri-Columbia: Instructional Materials Laboratory, 1981.

   b) Farmer's Tax Guide. Publication 225. Department of the Treasury: Internal Revenue Service, Revised October, 1988.

   c) FFA Achievement Award Program. National FFA Center, Alexandria, Virginia.

   d) Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988. [Lesson 5 only]

   e) Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: University Extension, 1986.

   f) Official FFA Manual of the National Organization for Students of Vocational Agriculture/Agribusiness. National FFA Supply Service, Alexandria, Virginia, 1988.

   g) Sample Entries for the Missouri Agricultural Record Book for Secondary Students (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

DEVELOPING PROGRAMS OF SUPERVISED AGRICULTURAL EXPERIENCE
Unit III - Analyzing the SAE Program
Major Competency Profile

Directions: Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

Rating Scale:
- **3 Mastered** - can work independently with no supervision
- **2 Requires Supervision** - can perform job completely with limited supervision
- **1 Not Mastered** - requires instruction and close supervision
- **N No Exposure** - no experience or knowledge in this area

3	2	1	N	
				Analyzing the SAE Program
				1. Complete the summary forms in the Missouri Agricultural Record Book for Secondary Students.
				2. Complete the analysis forms in the Missouri Agricultural Record Book for Secondary Students.
				3. Analyze and evaluate the SAE program.
				4. Identify awards that may be earned as a result of the SAE program.
				5. Determine if and when the Missouri Farm Business Record Book should be used.
				Other (specify): _____
				_____

III-III

Developing Programs of Supervised Agricultura. .perience

Unit III - Analyzing the SAE Program

Class/Section: _____

Students:	Complete summary forms in the Missouri Agricultural Record Book for Secondary Students	Complete the analysis forms in the Missouri Agricultural Record Book for Secondary Students	Analyze and evaluate the SAE program	Identify awards that may be earned as a result of the SAE program	Determine if and when the Missouri Farm Business Record Book should be used							

UNIT III - ANALYZING THE SAE PROGRAM

Lesson 1: Summarizing the Missouri Agricultural Record Book for Secondary Students

Objective: The student will be able to complete forms needed to summarize the SAE program.

Study Questions

1. What forms should be used to summarize the year's records?
2. How is the cash flow summary used?
3. What is depreciation?
4. How is depreciation recorded? (Optional)
5. Why is an ending inventory completed?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
3. Sample Entries for the Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
4. Sample Entries for the Missouri Agricultural Record Book for Secondary Students (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1988. [Teacher Reference]
5. Farmer's Tax Guide (Publication 225). Department of the Treasury: Internal Revenue Service, 1988. [Teacher Reference]

UNIT III - ANALYZING THE SAE PROGRAM

Lesson 1: Summarizing the Missouri Agricultural Record Book for Secondary Students

TEACHING PROCEDURES

A. Introduction

Introduce the unit through the motivation listed below.

B. Motivation

Ask students how much money they made on their SAE program during the past year. Did they make as much as they thought they would? What would they do differently?

C. Assignment

D. Supervised study

E. Discussion

1. Ask students which forms in the record book would be helpful in determining the success of the SAE program. Students should turn to each form in the record book to view it briefly as it is discussed. Review procedures for completing inventories, depreciation schedules, and the cash flow summary form with students.

   What forms should be used to summarize the year's records?

   a) Cash flow summary - Form 5
   b) Depreciation schedules - Forms 6 and 7
   c) Inventories - Forms 8 and 9

2. Students should turn to Form 5 in the record book to view the cash flow summary. Ask students what purpose the cash flow would serve in analyzing the SAE program. Point out that the cash flow is the same form as the budget except for the heading. Have students complete the cash flow using information from the sample entries and their SAE program.

   How is the cash flow summary used?

   a) Transfer receipts (Forms 1 and 2) and expenditures (Forms 3 and 4) at the end of each month to the cash flow (Form 5).
   b) Line headings on the cash flow should match exactly with the column headings on the receipts and expenditures pages.
   c) Each section of the cash flow should be totalled and checked for accuracy.
      1) Line A - Total ownership receipts
      2) Line B - Total placement receipts
      3) Line C - Total SAE receipts
      4) Line D - Total personal receipts
      5) Line E - Total dollars available
      6) Line F - Total ownership expenses
      7) Line G - Total placement expenses
      8) Line H - Total SAE expenses

9) Line I - Total personal expenses
10) Line J - Total dollars used
11) Line K - Cash difference for month
12) Line L - Cash balance beginning of month
13) Line M - Cash balance end of month

d) The cash difference for the month on line K is line E minus line J.

e) Cash balance at the beginning of the month (line L) is equal to line M of the previous month. The cash balance at the beginning of the month for January is equal to the beginning bank balance for the business account. Line L for January is also equal to line M in December of the previous year if a cash flow is available.

f) Cash balance at the end of the month is determined by adding the cash difference for the month (line K) to the cash balance at the beginning of the month (line L).

3. Even if students do not have items that are depreciable, it is important that they understand what depreciation is and which items qualify for depreciation.

What is depreciation?

a) Depreciation is a reduction in value due to wear, tear, exhaustion, and obsolescence.

b) Taking depreciation allows you to recapture the lost value of an item.

4. Question four is optional for this lesson. The instructor should decide whether or not to include this question, based on the number of students in the class who will need to complete Forms 6 and 7. If the question is included, refer to the current edition of the Farmer's Tax Guide for updated depreciation rules and regulations.

How is depreciation recorded?

a) Machinery, Equipment, and Land
- Col. 1: The date acquired determines the type of depreciation taken and the conventions that apply
- Col. 2: Item description
- Col. 3: New or used
- Col. 4: Remaining book value; not the market value of the item (only the book value can be depreciated)
- Col. 5: Actual amount paid for the item
- Col. 6: Amount that may be depreciated
- Col. 7: Expensing or adjustments
- Col. 8: Column 6 minus column 7
- Col. 9: Life - determined by property class
- Col. 10: Method - ACRS or MACRS with the appropriate conventions and options
- Col. 11: Prior depreciation taken
- Col. 12: Remaining book value - column 8 minus column 11
- Col. 13: Depreciation taken this year (calculated)
- Col. 14: Column 12 minus column 13

b) Livestock/Animals
- Col. 1: Determines the type of depreciation taken and the conventions that apply
- Col. 2: Item description

Col. 3: Head in lot
Col. 4: Cost basis per head
Col. 5: Expensing per head
Col. 6: Column 4 minus column 6
Col. 7: Life - determined by the property class
Col. 8: ACRS or MACRS with the appropriate conventions and options
Col. 9: Prior depreciation taken per lot
Col. 10: Column 3 times column 6 minus column 9
Col. 11: Column 3 minus the number sold during the year
Col. 12: Depreciation taken this year (calculated)
Col. 13: Remaining book value - column 10 minus column 12

5. Point out the importance of an accurate ending inventory. Refer to Unit II lesson 3 for instructions for completing inventories.

Why is an ending inventory completed?

An ending inventory gives the livestock, machinery, etc., on hand at the end of the year. It is compared to the beginning inventory to determine the increase or decrease in inventory for the year.

F. Other activity

Have students practice completing cash flow, depreciation, and inventory forms.

G. Conclusion

Several forms are used to summarize the secondary record book. The information from these forms is later used to analyze the SAE program.

H. Competency

Complete summary forms in the Missouri Agricultural Record Book for Secondary Students.

I. Answers to Evaluation

1. Budget
2. To measure the success of the SAE program.
3. Reduction in value due to wear, tear, exhaustion, and obsolescence.
4. Recapture the lost value of an item.

UNIT III - ANALYZING THE SAE PROGRAM

Name _____

Lesson 1: Summarizing the Missouri Agricultural Record Book for Secondary Students

Date _____

EVALUATION

Complete the following short answer questions.

1. Which form is basically the same as the cash flow?

2. Why is the record book summarized?

3. What is depreciation?

4. Why should an individual take depreciation on a depreciable item?

UNIT III - ANALYZING THE SAE PROGRAM

Lesson 2: Completing Forms for Analysis

Objective: The student will be able to complete the forms needed to analyze the SAE program.

Study Questions

1. What is the purpose of the profit or loss statement?
2. What information is needed to complete a profit or loss statement?
3. How are enterprises analyzed in the SAE program?
4. Where is the information found to complete the SAE program summary?

References

1. Developing Programs of Supervised Agricultural Experience. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
3. Sample Entries for the Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
4. Sample Entries for the Missouri Agricultural Record Book for Secondary Students (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1988. [Teacher Reference]

UNIT III - ANALYZING THE SAE PROGRAM

Lesson 2: Completing Forms for Analysis

TEACHING PROCEDURES

A. Review

Review the previous lesson on summarizing the secondary record book. Lead the discussion toward the importance of summarizing to evaluate the SAE program.

B. Motivation

How much money did you make on your SAE program this year? How will you tell? What areas of your SAE program made the most money? Where did you lose money?

C. Assignment

D. Supervised study

E. Discussion

1. Ask students if the SAE program is worth more now than when it began. How do they know? Have students turn to Form 11 in the secondary record book to discuss the profit or loss statement.

   What is the purpose of the profit or loss statement?

   a) The profit or loss statement measures the amount of income for a period of time. It combines income, expenditures, and inventory changes to provide information about returns to the farm business for payment of family labor, management, and capital.
   b) The profit or loss statement for the current year may be compared with previous profit or loss statements to compare income-producing ability over a period of years.

2. The profit or loss statement is divided into four sections that will allow students to analyze ownership and placement projects separately. It will also allow for an analysis of the SAE program as a whole. Discuss with students where information is found for each section and what the resulting analysis means. Have students complete the profit or loss statement using information from the sample entries and their SAE program.

   What information is needed to complete a profit or loss statement?

   a) Net ownership income is the difference between total ownership receipts (Form 5, line A) minus total ownership expenditures (Form 5, line F). Adjustments for changes in inventories are made and the value of home products used is subtracted.
   b) The ownership analysis section may be used to identify strong and weak points in the business. Comparing the information with state averages or other standards, may indicate areas of the business which could be adjusted to increase income.

c) The ownership analysis section (lines 7 and 8) will determine the amount of interest on non-borrowed capital. The beginning net worth (Form 10, line 36 of the previous year) is added to the ending net worth (Form 10, line 36) and divided by two to determine the average net worth for the year. This average is multiplied by six percent to determine the amount of interest that could have been earned on the capital if it had not been invested in the SAE program.

d) Placement profit is determined by the profit or loss statement. Total placement receipts (Form 5, line B) minus total placement expenditures (Form 5, line G) will result in net placement profit.

e) Net profit or loss is determined by subtracting the amount of interest on non-borrowed capital from the net ownership income (Form 11, line 6). The resulting amount will be your return to labor and management.

f) The financial balance schedule determines the total earnings for the year. Gain or loss in net worth is added to SAE program earnings for the year as well as income from other sources to determine the total earnings.

g) Total earnings must be larger than the gain or loss in net worth or an error has occurred in summarizing the forms. Net worth cannot increase by more than the total earnings for the year.

3. Discuss with students the possibility of a successful SAE program having enterprises that were not successful. How can successful enterprises be identified?

How are enterprises analyzed in the SAE program?

a) The enterprise analysis form (104) allows a student to analyze income and production for each enterprise in the SAE program.

b) Information is transferred from the inventories and the enterprise columns of the receipts and expenditures pages.

c) Information recorded in the left column will determine the net income for the enterprise.

d) Information recorded in the right column will determine the total production for the enterprise.

e) Total production information will later be transferred to Form 12 (Supervised Occupational Experience Program Summary).

4 Students should turn to Form 12 in the secondary record book. Provide an example of a proficiency award application to illustrate why program summaries are helpful in filling out award applications.

Where is the information found to complete the SAE program summary?

a) Ownership

1) The only acceptable headings that may be used are listed directly under the ownership summary section on Form 12.

2) Units/acres and number of head may be found on the inventories (Forms 8 and 9).

3) Total production is transferred from the enterprise analysis on Form 104.

4) If the SAE project is an agribusiness owned by the student, the number of hours worked should be recorded.

5) The amount of produce (e.g., fruit, vegetables) or livestock products (e.g., eggs, wool) are recorded.

6) The percent ownership of the project should be specified in the final column.

b) Placement
   1) The job title and description should be recorded.
   2) If cooperative credit is earned for the project, it should be recorded under the column "COOP Credit, Yes/No"
   3) Exchange of labor should be recorded.
   4) The number of hours worked for the project should be recorded in the appropriate column based on the area the project is classified (e.g., production, sales and service).

c) Directed experience
   1) If directed experience is used as a part of the SAE program, the type of experience should be recorded in the final section of Form 12.
   2) Designate if cooperative credit was received in the second column.
   3) The number of hours of directed experience should be recorded under the appropriate area in which the experience occurred.

F. Other activities

G. Conclusion

Once the record book has been summarized, it is necessary to complete other forms to obtain an accurate analysis. The analysis will allow the student to determine the strengths and weaknesses of the SAE program and provide a basis for making improvements in the program.

H. Competency

Complete the analysis forms in the Missouri Agricultural Record Book for Secondary Students.

I. Answers to Evaluation

1. c
2. d
3. b
4. Measures income for a period of time; combines receipts, expenditures, and changes in inventory; may be compared with previous profit or loss statements, to compare income-producing ability over a period of years.
5. The form allows a student to analyze each individual enterprise in the SAE program, as well as the whole SAE program.

Name _____

Lesson 2: Completing Forms for Analysis

Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. Which of the following is <u>not</u> a section of the profit or loss statement?

   a. Ownership
   b. Placement profit
   c. Dollars of working capital
   d. Financial balance schedule
   e. Ownership analysis

2. The enterprise analysis form will allow you to analyze enterprises within the SAE program in terms of total production or _____.

   a. Gross income
   b. Gross receipts
   c. Gross expenditures
   d. Net income
   e. Dollars of working capital

3. The SAE program summary (Form 12) summarizes the SAE program in terms of _____, rather than income.

   a. Cents
   b. Production
   c. Days worked
   d. Competencies learned
   e. Liquidity

Complete the following short answer questions.

4. What is the purpose of the Profit or Loss Statement?

5. Why are enterprise analysis forms used for the SAE program?

UNIT III - ANALYZING THE SAE PROGRAM

Lesson 3: Evaluating and Improving the SAE Program

Objective: The student will be able to complete the forms needed to evaluate the SAE program.

Study Questions

1. What forms are used to evaluate and improve the SAE program?
2. What is net worth?
3. How does net worth reveal the progress of the SAE program?
4. What are some points we can evaluate on the financial statement?
5. What are some ways to increase returns from your SAE program?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
3. Sample Entries for the Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
4. Sample Entries for the Missouri Agricultural Record Book for Secondary Students (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]

UNIT III - ANALYZING THE SAE PROGRAM

Lesson 3: Evaluating and Improving the SAE Program

TEACHING PROCEDURES

A. Review

Review the previous lesson on summarizing the record book. Ask students how this information can be used to improve the SAE program. Review Lesson 3 in Unit II on completing a financial statement.

B. Motivation

Ask students how they could improve their SAE program. Where would they expand? Which parts of the SAE program were successful?

C. Assignment

D. Supervised study

E. Discussion

1. Once the record book has been summarized, the information from the forms should be analyzed to determine the success of the SAE program. Discuss with students the types of information that are needed to analyze an SAE program.

   What forms are is used to evaluate and improve the SAE program?

   a) Beginning and ending inventories
   b) Financial Statement
   c) Profit or Loss Statement
   d) Enterprise analysis forms

2. In the previous question, it was discussed that changes in inventory are important in determining the true financial standing of the SAE program.

   What is net worth?

   a) Net worth is the owner's claim against the business.
   b) If all assets of the SAE program were sold and all liabilities were paid, the amount left would be equal to the net worth.
   c) The formula to find net worth is: assets minus liabilities = net worth.

3. Discuss with students what the net worth can reveal about the SAE program. Use a previous student's records to show the relationship of net worth to total receipts and expenditures.

   How does the change in net worth measure the progress of the SAE program?

   By accounting for the increase or decrease of assets and liabilities, the net worth will show the change in the financial status of the business from the beginning of the year to the end of the year.

4. Discuss with students the value of each of the measures listed below to the SAE program. Give a brief description of each.

   What are some points we can evaluate on the financial statement?

   a) Net worth - equals assets minus liabilities
   b) Current ratio (liquidity) - current assets equal or exceed current liabilities
   c) Dollars of working capital - equals current assets minus current liabilities
   d) Debt : net worth ratio (leverage)
   e) Total assets : liabilities ratio (solvency)

5. Ask students to report on their plans for improving their SAE program. How will these improvements increase the returns to the SAE program? Encourage students to offer suggestions to others on ways to improve. Each student's response will be different, but the following guidelines should be used.

   What are some ways to increase returns from your SAE program?

   a) Analyze each enterprise to determine which are successful.
   b) Become more efficient by reducing costs of inputs or hours of labor involved in an enterprise.
   c) Increase the size of the SAE program or individual enterprises.
   d) Provide quicker turnover.
   e) Use alternative marketing strategies

F. Other activity

Students with outstanding SAE programs should complete applications for proficiency awards.

G. Conclusion

Once the record book has been summarized, the SAE program should be analyzed and evaluated to determine its strengths and weaknesses. Improvements should be made based on the analysis of the program.

H. Competency

Analyze and evaluate the SAE program.

I. Answers to Evaluation

1. Two of the following: beginning inventory, ending inventory, profit or loss statement, enterprise analysis
2. The owner's claim against the business (assets minus liabilities)
3. b
4. a
5. d
6. c

Name _____

Lesson 3: Evaluating and Improving the SAE Program

Date _____

EVALUATION

Complete the following short answer questions.

1. What are two forms in the record book that may be used to evaluate the progress of the SAE program?

   a.

   b.

2. Define "net worth."

Circle the letter that corresponds to the best answer.

3. What is equal to total business assets divided by total business liabilities?

   a. Liquidity
   b. Solvency
   c. Dollars of working capital
   d. Leverage
   e. Net worth

4. What results when current assets equal or exceed current liabilities?

   a. Liquidity
   b. Solvency
   c. Dollars of working capital
   d. Leverage
   e. Net worth

5. What is the ratio of total business debt to total business net worth?

   a. Liquidity
   b. Solvency
   c. Dollars of working capital
   d. Leverage
   e. Net worth

6. What is current assets minus current liabilities?

   a. Liquidity
   b. Solvency
   c. Dollars of working capital
   d. Leverage
   e. Net worth

UNIT III - ANALYZING THE SAE PROGRAM

Lesson 4: Award Applications

Objective: The student will be able to identify awards that are available based on the SAE program.

Study Questions

1. **What awards may be received from an SAE program?**
2. **What information is needed to complete award applications?**
3. **What are minimum SAE program requirements for FFA degrees?**

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
3. Official FFA Manual of the National Organization for Students of Vocational Agriculture/Agribusiness, National FFA Supply Service, Alexandria, Virginia, 1988.

UNIT III - ANALYZING THE SAE PROGRAM

Lesson 4: Award Applications

TEACHING PROCEDURES

A. Review

Review the previous lesson on evaluating and improving the SAE program.

B. Motivation

Ask students what the criteria for receiving many awards and degrees in the FFA is based on. What types of awards are available?

C. Assignment

D. Supervised study

E. Discussion

1. Ask students what types of awards other members of the chapter have received in the past. Where do the awards come from?

   What awards may be received from an SAE program?

   a) Achievement awards
   b) Computers in Agriculture awards
   c) Proficiency awards
   d) Scholarships
   e) FFA degrees (Greenhand, Chapter, State, American)
   f) Star awards
   g) Agriscience awards

2. Ask students where the information needed to complete award applications may be found. Stress that most of the information will be recorded in the record book.

   What information is needed to complete award applications?

   a) Personal information
   b) Involvement in FFA and other organizations
   c) Contest team participation
   d) Committee involvement
   e) Offices held
   f) Future plans

3. Ask students to list the minimum requirements for FFA degrees. Stress the requirements for the degree the group is getting ready to receive. Refer students to the current issue of the Official FFA Manual.

What are minimum SAE program requirements for FFA degrees?

Since FFA degree requirements change periodically, the most recent Official FFA Manual should be consulted for the current requirements for the following degrees:

a) Greenhand FFA degree
b) Chapter FFA degree
c) State FFA degree
d) American FFA degree

F. Other activities

1. Students should develop plans with the teacher for completing the requirements for an Achievement Award.

2. Students should complete applications for advanced degrees.

G. Conclusion

The SAE program is the basis for many awards earned through the FFA. Students should be aware of the awards that they are eligible for and the information needed to complete the application for these awards.

H. Competency

Identify awards that may be earned as a result of the SAE program.

I. Answers to Evaluation

1. Should include four of the following: achievement awards, computers in agriculture, proficiency awards, scholarships, star awards, FFA degrees, or proficiency awards
2. Personal information, involvement in FFA and other organizations, contest teams, committees, offices held, future plans

3-6 The instructor should determine if answers are appropriate based on the Official FFA Manual for the current year.

Name _____

Lesson 4: Award Applications

Date _____

EVALUATION

Complete the following short answer questions.

1. Name four types of awards that may be obtained as a result of the SAE program.

   a.

   b.

   c.

   d.

2. What type of information is requested on award applications?

3. What is the minimum SAE requirement for the Greenhand degree?

4. What is the minimum SAE requirement for the Chapter FFA degree?

5. What is the minimum SAE requirement to receive the State FFA degree?

6. What is the minimum SAE requirement for the American FFA degree?

UNIT III - ANALYZING THE SAE PROGRAM

Lesson 5: Changing to the Missouri Farm Business Record Book (Optional)

Objective: The student will be able to determine if the Missouri Farm Business Record Book should be used for the SAE program.

Study Questions

1. What is the Missouri Farm Business Record Book?
2. When should the Missouri Farm Business Record Book be used?
3. How is the Missouri Farm Business Record Book different from the Missouri Agricultural Record Book for Secondary Students?
4. What are the advantages and disadvantages of using the Missouri Farm Business Record Book?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
3. Missouri Agricultural Record Book for Secondary Students. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

UNIT III - ANALYZING THE SAE PROGRAM

Lesson 5: Changing to the Missouri Farm Business Record Book

TEACHING PROCEDURES

A. Review

Review the previous lesson.

B. Motivation

Ask students what record keeping problems might occur if they were to open an agribusiness or start to farm after finishing school without using a record keeping system. Provide an example of a business that has had problems to illustrate what could happen.

C. Assignment

D. Supervised study

E. Discussion

1. If possible, have several copies of the Missouri Farm Business Record Book available for students to look at.

   What is the Missouri Farm Business Record Book?

   a) Revision of the Missouri Young Farmer Record Book and the Missouri Extension Loose Leaf Record Book
   b) Can be used to keep an entire year's records for the business and/or family
   c) Includes receipt and expenditure pages, depreciation schedules, inventories, financial statements, profit and loss forms, cash flow summaries, enterprise analysis forms, field records, etc.
   d) Designed to allow different methods of accounting

2. Ask students why they might need to use it rather than the secondary book.

   When should the Missouri Farm Business Record Book be used?

   a) To provide a record keeping system for the business and/or family
   b) By secondary students with large SAE programs whose accounting needs are not met by the secondary book
   c) If planning to operate a farm business after high school
   d) When the SAE programs have many projects that need detailed analysis

3. Have students look through the Missouri Farm Business Record Book and list differences between it and the secondary book.

   How is the Missouri Farm Business Record Book different from the Missouri Agricultural Record Book for Secondary Students?

   a) The Missouri Farm Business Record Book allows for much more detailed records to be kept.

b) Forms are included to record information on hired labor and independent contractors.
c) Two financial statements provide space to record the book value as well as the market value of items in the SAE program.
d) Instead of incorporating personal records in with the business records, the Missouri Farm Business Record Book has separate forms for personal records.
e) Enterprise analysis forms are much more detailed in the advanced book.
f) Monthly inventories may be recorded for each enterprise to allow a month to month analysis, rather than an end of the year analysis.
g) FFA forms are not provided for the secondary student using the Missouri Farm Business Record Book. These froms will need to be added.

4. After students have looked through the Missouri Farm Business Record Book, ask them what are its advantages and disadvantages. They may want to make comparisons between the sections of each book.

What are the advantages and disadvantages of using the Missouri Farm Business Record Book?

a) Advantages
   1) More detailed record keeping may be used due to more receipts and expenditure columns
   2) The separate personal forms
   3) Includes separate cash flows for business and non-business
   4) Many forms are designed for several years
   5) Includes hired labor and independent contractor forms
   6) Includes book value and market value financial statements
   7) Includes expanded enterprise analysis forms
      (a) Livestock enterprise data
      (b) Annual enterprise expense data
      (c) Livestock purchased for resale
      (d) Monthly livestock inventory
      (e) Monthly feed and grain inventory
      (f) Field records for planting cropping systems

b) Disadvantages
   1) Because of its larger size and detail, the advanced book is more time-consuming to complete and analyze.
   2) Supplementary forms and FFA forms will have to be added (ownership business and placement training agreements, competencies lists, breeding and performance record, show record, and FFA leadership section).

F. Other activities

G. Conclusion

The Missouri Farm Business Record Book has advantages and disadvantages over the secondary record book. Some students may need to use it to meet their record keeping needs. Some supplementary and FFA forms will need to be pulled from the secondary book and used with the Missouri Farm Business Record Book.

H. Competency

Determine if and when the Missouri Farm Business Record Book should be used.

I. Answers to Evaluation

1. F
2. F
3. T
4. F
5. Two of the following: more detailed records may be kept, family and business records may be kept together, more forms than the secondary record book, two financial statements (book and market value), separate cash flows for business and family records, additional enterprise analysis forms.
6. Four of the following: Ownership Business Agreement (Form 100), Placement Training Agreement (Form 101), Competencies List (Form 102), Breeding and Performance Record (Form 106), Show Record (Form 107), FFA Leadership and Participation (Form 108), Leadership and Participation Other Than FFA (Form 109), Other FFA Activities (Form 110), Proficiency Award information (Form 111)

UNIT III - ANALYZING THE SAE PROGRAM

Name _____

Lesson 5: Changing to the Missouri Farm Business Record Book

Date _____

EVALUATION

Circle T if the statement is true or F if the statement is false.

T or F 1. The Missouri Farm Business Record Book is only for farmers to use, not high school students.

T or F 2. Receipts and expenses are entered once a year in the Missouri Farm Business Record Book.

T or F 3. More detailed records may be kept in the Missouri Farm Business Record Book than in the secondary book.

T or F 4. The Missouri Farm Business Record Book cannot be used to figure taxes.

Complete the following short answer questions.

5. What are two advantages of the Missouri Farm Business Record Book?

   a.

   b.

6. The high school student using the Missouri Farm Business Record Book will need to use several forms from the Missouri Agricultural Record Book for Secondary Students. What are four of those forms?

   a.
   b.
   c.
   d.

DEVELOPING PROGRAMS OF SUPERVISED AGRICULTURAL EXPERIENCE

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

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- TM 3.1: Table C-2. Corn Budgets
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- TM 5.11: Monthly Livestock Inventory Record (Form 36)
- TM 5.12: Monthly Feed and Grain Inventory Record (Form 37)

Lesson 6–Summarizing the Missouri Farm Business Record Book IV-139

Lesson 7–Analyzing the Farm Business IV-147
- TM 7.1: Profit or Loss Statement

OBJECTIVES

1. The student will be able to explain why records should be kept for the farm business.
2. The student will be able to complete the necessary forms to open the
3. The student will be able to project cash flow for the farm business.
4. The student will be able to record receipts and expenditures in the Missouri Farm Business Record Book.
5. The student will be able to complete additional forms in the Missouri Farm Business Record Book.
6. The student will be able to complete the forms necessary to summarize the Missouri Farm Business Record Book.
7. The student will be able to complete the forms needed to analyze the farm business.

COMPETENCIES

1. Describe the two types of acçounting methods.
2. Complete the forms needed to open the Missouri Farm Business Record Book.
3. Develop a projected cash flow.
4. Record receipts and expenditures in the Missouri Farm Business Record Book.
5. Complete additional records in the Missouri Farm Business Record Book.
6. Complete the forms necessary to summarize the Missouri Farm Business Record Book.
7. Analyze the farm business using the Missouri Farm Business Record Book.

MOTIVATIONAL TECHNIQUE OR INTEREST APPROACH

1. Ask a local farmer who is using the Missouri Farm Business Record Book to discuss how he or she is using the record book in the farming operation.
2. If possible show a record book that has been completed by a junior or senior student. Point out how the enterprise forms are used.

EVALUATION

1. Give short objective test following each lesson and a more in-depth objective test at the conclusion of the unit.
2. Observe the changes in behavior as evidence of an improved ability of students to deal with problems in this unit using background information acquired from earlier units.
3. Observe students' attempts to solve similar problems in their supervised agricultural experience programs.

REFERENCES AND MATERIALS

1. Student References

   a) Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.

   b) Developing Programs of Supervised Agricultural Experience (Unit IV Handouts). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [For adult instruction only]

   c) Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

   d) Sample Entries for the Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

   e) Missouri Farm Business Record Book. Pads of 50 forms are available from the Instructional Materials Laboratory.

      1) Expenditure Forms 12 and 7
      2) Expenditure Forms 8 and 9
      3) Expenditure Forms 10 and 11
      4) Farm Business Cash Flow Form 27

2. Teacher References

   a) Farmer's Tax Guide. Publication 225. Department of the Treasury: Internal Revenue Service, Revised October, 1988.

   b) Missouri Farm Planning Handbook (Manual 75), University of Missouri-Columbia: University Extension, 1986.

   c) Sample Entries for the Missouri Farm Business Record Book (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

DEVELOPING PROGRAMS OF SUPERVISED AGRICULTURAL EXPERIENCE
Unit IV - Using the Missouri Farm Business Record Book
Major Competency Profile

Directions: Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

Rating Scale: **3 Mastered** - can work independently with no supervision
2 Requires Supervision - can perform job completely with limited supervision
1 Not Mastered - requires instruction and close supervision
N No Exposure - no experience or knowledge in this area

3	2	1	N	Using the Missouri Farm Business Record Book
				1. Describe the two types of accounting methods.
				2. Complete the forms needed to open the Missouri Farm Business Record Book.
				3. Develop a projected cash flow.
				4. Record receipts and expenditures in the Missouri Farm Business Record Book.
				5. Complete additional records in the Missouri Farm Business Record Book.
				6. Complete the forms necessary to summarize the Missouri Farm Business Record Book.
				7. Analyze the farm business using the Missouri Farm Business Record Book.
				Other (specify):
				_____
				_____

IV-

Developing Programs of Supervised Agricultural E rience
Unit IV - Using the Missouri Farm Business Record Book

Class/Section: _____

Students:	Describe the two types of accounting methods	Complete the forms needed to open the Missouri Farm Business Record Book	Develop a projected cash flow	Record receipts and expenditures in the Missouri Farm Business Record Book	Complete additional records in the Missouri Farm Business Record Book	Complete the forms necessary to summarize the Missouri Farm Business Record Book	Analyze the farm business using the Missouri Farm Business Record Book			

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 1: Keeping Records for the Farm Business

Objective: The student will be able to explain why records should be kept for the farm business.

Study Questions

1. Why should records be kept for the farm business?
2. What is cash basis accounting?
3. What are the advantages and disadvantages of cash basis accounting?
4. What is accrual basis accounting?
5. What are the advantages and disadvantages of accrual basis accounting?
6. What are the components of a complete record keeping system?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Developing Programs of Supervised Agricultural Experience (Unit IV Handouts). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [For adult instruction only]*
3. Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
4. Transparency Masters
   a) TM 1.1: Why Keep Records?
   b) TM 1.2: Cash Basis Accounting
   c) TM 1.3: Accrual Basis Accounting

* Attention Adult Instructors: Unit IV Handouts are provided for adult classes. They contain the same information as Unit IV in the Student Reference.

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 1: Keeping Records for the Farm Business

TEACHING PROCEDURES

A. Introduction

Introduce the unit.

B. Motivation

Insert an inverted paper cup or other object in a clear pint jar. Fill the jar with soybeans or other large seeds, making sure the cup is not visible. Have the class guess how many beans are in the jar. Record their guesses on the board. After everyone has had an opportunity to guess, ask the class to identify factors that influenced their guesses. Record these on the board. When the list is complete, announce the winner and provide a prize if possible. Pour the beans out to reveal the object that took up space. Close by pointing out that guesses would have been more accurate if they had a "record" of your activity when filling the jar. That is the purpose of records -- to provide accurate information on which to make decisions.

C. Assignment

D. Supervised study

E. Discussion

1. People will keep records for different reasons. Use TM 1.1 to discuss with the class reasons to keep records.

   Why should records be kept for the farm business?

   a) External reasons
      1) Income tax reporting
      2) Tax management
      3) Self-employment social security taxes
      4) Social security taxes on hired labor
      5) Good credit relations
      6) Sound credit planning
      7) Business continuity
      8) Landlord-tenant relationship
   b) Internal reasons
      1) Identifying strong and weak parts of the business.
      2) Planning business changes
      3) Operating and controlling the business.

2. Cash basis accounting is one method of accounting that can be used for the farm business. Ask the class to describe the cash basis method of accounting.

   What is cash basis accounting?

   a) Income is reported in the year it is received.

b) Must have a constructive receipt.
c) Expenses are deducted the year in which they occur.
d) Inventories are not considered.

3. Based on the characteristics of cash basis accounting discussed in the previous question, ask the class why cash basis accounting would or would not work in their farm business. Use TM 1.2 to illustrate the advantages and disadvantages.

What are the advantages and disadvantages of cash basis accounting?

a) Advantages
   1) Easier to keep cash records
   2) Flexible
   3) Most farmers use cash basis for income tax reporting.
b) Disadvantages
   1) Must complete inventories for analysis purposes
   2) Cannot be used by certain farm corporations and partnerships
   3) Cannot be used by tax shelter companies

4. Not all farms will be able to use the cash basis accounting. Discuss with the class the characteristics of accrual basis accounting.

What is accrual basis accounting?

a) Accrual basis accounting is used to match income and expenses in the same year.
b) Receipts are reported when they are earned, not necessarily when they are received.
c) Expenditures are deducted when they are incurred, not necessarily when they are paid.
d) Beginning and ending inventories are used when figuring gross income.
e) Accrual basis accounting is required for certain farm corporations and partnerships and all tax shelter companies. (See the current Farmer's Tax Guide for details.)

5. Based on the characteristics of the accrual method, ask the class what are the advantages and disadvantages of this method. Point out that disadvantages of cash basis accounting may become advantages of accrual basis accounting? Use TM 1.3.

What are the advantages and disadvantages of accrual basis accounting?

a) Advantages
   1) Easier analysis than with the cash method
   2) Can be used by tax shelters, corporations, and partnerships
   3) Easier production cycle analysis
b) Disadvantages
   1) Inventories must be kept.
   2) Tracking of receipts and expenditures is more difficult.
   3) Cash may not be available to pay income tax if the receipt is recorded before payment is received.

6. Ask the class to discuss the types of records they would need to completely analyze the farm business.

What are the components of a complete record keeping system?

a) Receipts
b) Expenditures
c) Financial statement
d) Profit or loss statement
e) Inventories
f) Enterprise analysis records
g) Loan repayment schedules
h) Depreciation schedules
i) Hired labor forms
j) Cash flow summaries
k) Non-farm and farm records

F. Other activities

1. Invite an IRS representative to speak to the class about the differences between the two accounting methods and how they can affect the farm business.

2. Briefly go through each section of the Missouri Farm Business Record Book to introduce the type of information to be recorded. Give a short description of the use of each form.

G. Conclusion

When beginning a record keeping system for the farm business, you must decide which type of accounting method will enable you to maximize your after-tax income.

H. Competency

Describe the two types of accounting methods.

I. Answers to Evaluation

1. c
2. d
3. Answers should include four of the following: income tax reporting, tax management, self-employment tax, social security tax on hired labor, good credit relations, sound credit planning, business continuity, landlord-tenant relationship, identifying strong and weak points, planning business changes, operating and controlling the business.
4. Answers should include five of the following: receipts and expenditures, financial statement, profit or loss statement, inventories, enterprise analysis forms, loan repayment records, depreciation schedules, hired labor, and cash flow summaries.

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK Name _____

Lesson 1: Keeping Records for the Farm Business Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. Which accounting method records income in the year in which it is received and deducts expenditures the year in which they occur?

   a. Accrual basis
   b. Manual basis
   c. Cash basis
   d. Automated basis
   e. Profit basis

2. Which type of accounting is used to match receipts and expenditures in the same year?

   a. Cash basis
   b. Automated basis
   c. Profit basis
   d. Accrual basis
   e. Manual basis

Complete the following short answer questions.

3. List four reasons why you should keep records for the farm business.

   a.

   b.

   c.

   d.

4. Name five components of a complete record keeping system.

   a.

   b.

   c.

   d.

   e.

WHY KEEP RECORDS ?

1. External Reasons

   A. Income tax reporting

   B. Tax management

   C. Self-employment social security taxes

   D. Social security taxes on hired labor

   E. Good credit relations

   F. Sound credit planning

   G. Business continuity

   H. Landlord tenant relationships

2. Internal Reasons

   A. Identifying strengths and weaknesses of business

   B. Planning business changes

   C. Operating and controlling of the business

CASH BASIS ACCOUNTING

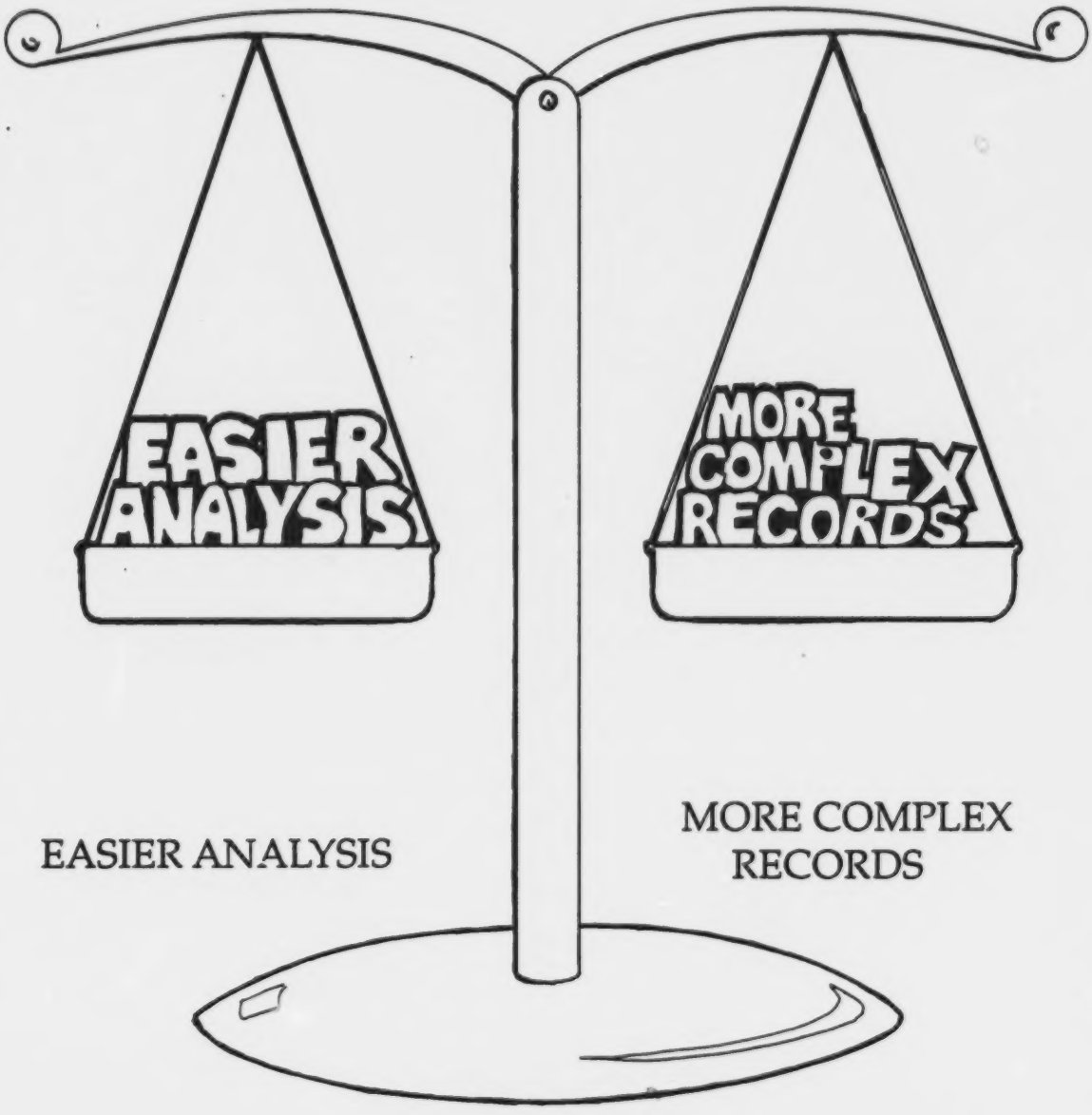
ADVANTAGES:

1. Easier to keep records
2. Flexible
3. Most farmers use cash basis for income tax reporting.

DISADVANTAGES:

1. Must complete inventories for analysis purposes
2. Cannot be used by certain farm corporations and partnerships
3. Cannot be used as a tax shelter

ACCRUAL BASIS ACCOUNTING



EASIER ANALYSIS

MORE COMPLEX RECORDS

Lesson 1: Keeping Records for the Farm Business

People keep records for many different reasons. Individual farmers will keep records based on the needs of the farm business and individual preferences. These reasons are classified as external and internal.

Why Keep Records

The first category, external reasons, are probably the most prevalent of all. External reasons affect why and how decisions are made, as a result of relations with others outside of the farm business. Internal reasons affect why and how decisions are made to maximize after-tax income.

Income tax reporting - Correct and defensible income tax reporting is made easier through record keeping. Farmers with adequate records find it much easier to complete tax returns and defend these records in case of an audit by the Internal Revenue Service.

Tax management - Adequate and accurate records are not only needed to determine the tax due, but also to avoid overpayment. Good records will also assist in planning year-end management techniques to level income and gain larger tax savings.

Self-employment social security taxes - Since these are paid only on certain types of farm income, a good set of records is necessary. Refer to the current Farmer's Tax Guide for guidelines concerning the types of farm income that social security taxes must be paid on and the appropriate percentage to use when determining the amount to be paid.

Social security taxes on hired labor - Social security taxes have become an important factor since many farmers have employees that meet the minimum requirements established by the IRS. Employers are required to make reports on any hired labor that meets certain minimum qualifications. Refer to the current Farmer's Tax Guide to find out what the regulations are, as well as the appropriate percentage of cash wages that are subject to social security tax.

Good credit relations - As credit usage has increased, lenders are placing more emphasis on good records. In an ideal situation, creditors like to have a financial statement, a Profit or Loss Statement, and a projected cash flow for the coming year.

Sound credit planning - Farmers need adequate records to develop a reasonably accurate cash flow which will identify credit needs and repayment capacity. Maintaining a balance between assets and liabilities is important; but knowing when you will need additional support in the form of credit could save your business.

Business continuity - Many farmers will do estate planning with the intent of helping another generation start farming. You will need to establish the original basis of all property owned at the time you sell or transfer your real estate and other real property.

Landlord-tenant relations - Many farm business operators rent land and facilities. Furthermore, many farm partnerships can involve the entire business or only one or two aspects of the business (e.g., beef enterprise). Periodic and end-of-the-year settlements concerning shared receipts and expenditures must be documented through an adequate record system.

Even though they may not necessarily be the reason why records must be kept, internal reasons for keeping records may be more important to the individual than external reasons. The following internal reasons are more directly related to the primary goal of any farm business--to maximize after-tax income.

Identifying strong and weak parts of the business - Records will help you answer important questions which will allow you to identify areas which need improvement or expansion. Some commonly asked questions include: Is my business too small? Which parts of my business should I expand? Which parts should I decrease or eliminate? And, are my costs of operations under control?

Planning business changes - An active, profitable business will not and should not become stagnant. Changes should be anticipated. These changes will be more beneficial if they are planned and relate directly to your individual farm data. Budgeting, estimating income and expenditures, and planning other changes in the farm business will be much more accurate if records from your farm operation are used.

Operating and controlling the business - Setting goals and planning changes in the farm are different than evaluating those goals. Records from previous months and previous years can be used to make operational decisions for the farm business. Past records can also assist you in making projected decisions concerning the future of the farm business.

Though there are many different kinds of accounting, there are basically two that are used in the farm business. The two most popular types of accounting for farm business are cash basis accounting and accrual basis accounting. You may choose which type of accounting to use in your farm business, based on your record keeping needs. A combination of the two may be used if they are used consistently and within certain IRS guidelines. An important factor to remember is that once you file a tax return with the IRS, you must use the same method each following year. If you wish to change accounting methods after this point, you must obtain permission from the IRS. Explanations of the two most commonly used accounting methods follow.

Cash Basis Accounting

When using cash basis accounting, income is reported in the year it is received. In order to include an item as income, you must have constructively received the item. A constructive receipt is when an amount is credited to your account or made available to you without restriction as to the time or manner of payment. Items sold under deferred payment may not be counted as income if payment is not received within the tax year. Expenses are deducted the year in which they are paid. Some prepaid supplies may be deducted when they are used or consumed. Inventories are not considered when using the cash basis accounting method.

Advantages and Disadvantages of Cash Basis Accounting

Cash basis accounting has several advantages. First of all, it is easier to keep cash records. It is more flexible than using the accrual method. Cash is available to pay income tax because you are not claiming income until it is actually received. Several disadvantages also exist for the cash basis method. To make an analysis of the farm business, you must complete inventories. Cash basis accounting cannot be used by most farm corporations and partnerships, nor can it be used by tax shelters companies. Refer to the current Farmer's Tax Guide for full details.

Accrual Basis Accounting

Not all farms will be able to use cash basis accounting. They may need to use the accrual method of accounting. Accrual method accounting is used to match income and expenses in the same year. Receipts are reported when they are earned, not necessarily when they are received, even if payment is not received until another tax year. Expenditures are deductible when they are incurred, not necessarily when they are paid. Beginning and ending inventories are used when figuring gross income. Accrual method accounting is required for certain farm corporations and partnerships and all tax shelter companies. (See the current Farmer's Tax Guide for details.)

Advantages and Disadvantages of Accrual Method Accounting

Analysis of the farm business is easier and usually more accurate with accrual basis accounting than with cash basis accounting. Analysis of a production cycle can be easily kept since the receipts and expenditures can be recorded in the year the production occurred, rather than when payment was made or received.

A disadvantage of accrual basis accounting is that inventories must be kept. In accrual basis accounting, tracking of receipts and expenditures may be more difficult since they can be recorded when incurred or paid. Another disadvantage is that cash may not be available to pay income tax if a large receipt is recorded before payment is actually received.

Components of a Complete Record Keeping System

Several types of records need to be completed in order to have the appropriate information to make a complete, accurate analysis of the farm business. The components needed are included in the Missouri Farm Business Record Book and will be explained throughout the remainder of this unit. A complete record keeping system contains several components such as receipts, expenditures, financial statements, Profit or Loss Statement, inventories, enterprise analysis records, loan repayment schedules, depreciation schedules, hired labor forms, cash flow summaries, and non-farm and farm records.

Summary

People keep records for many different reasons based on their needs. A complete set of records will assist in planning and analyzing the farm business and can be used as a basis for decision-making. Different accounting methods are available to farmers, such as the cash basis and accrual basis methods. Certain IRS guidelines must be observed no matter which method is used. The current Farmer's Tax Guide should be used to ensure that proper records are being kept for tax purposes.

Credits

Farm Business Management Analysis. University of Missouri-Columbia: Instructional Materials Laboratory, 1981.

Farmer's Tax Guide. Publication 225. Department of the Treasury: Internal Revenue Service, Revised October, 1988.

Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 2: Opening the Missouri Farm Business Record Book

Objective: The student will be able to complete the necessary forms to open the Missouri Farm Business Record Book.

Study Questions

1. What information is needed to determine where your business is at the beginning of the record keeping system?
2. How is depreciation recorded?
3. How are inventories completed?
4. How are financial statements completed?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Developing Programs of Supervised Agricultural Experience (Unit IV Handouts). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [For adult instruction only]
3. Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
4. Sample Entries for the Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
5. Sample Entries for the Missouri Farm Business Record Book (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]
6. Transparency Masters

   a) TM 2.1: Depreciation Schedule: Machinery and Equipment (Form 13)
   b) TM 2.2: Depreciation Schedule: Machinery and Equipment cont. (Form 14)
   c) TM 2.3: Depreciation Schedule: Livestock for Breeding (Form 15)
   d) TM 2.4: Depreciation Schedule: Livestock for Breeding, cont. (Form 16)
   e) TM 2.5: Real Estate Investment and Depreciation Record (Form 19)
   f) TM 2.6: Real Estate Investment and Depreciation Record, cont. (Form 20)
   g) TM 2.7: Annual Inventory of Livestock (Form 17)
   h) TM 2.8: Inventory of Feed, Crop, and Supplies (Form 18)
   i) TM 2.9: Book Value: Financial Statement (Form 25)
   j) TM 2.10: Market Value: Financial Statement (Form 26)

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 2: Opening the Missouri Farm Business Record Book

TEACHING PROCEDURES

A. Review

Review the previous lesson.

B. Motivation

Ask the class to determine how much their farm is worth today. Ask how various parts of the farm business are valued. Ask the class how they will know if the farm has progressed over the past year. Guide the discussion to the importance of opening records so that a comparison can be made at the end of the year for the farm business.

C. Assignment

D. Supervised study

E. Discussion

1. An important aspect in analyzing the farm business is providing a basis of growth or reduction in the farm business. Ask the class how they can determine where the farm business is when they begin keeping records. Use TM 2.1.

   What information is needed to determine where your business is at the beginning of the record keeping system?

   a) Beginning inventory
   b) Depreciation schedules
   c) Beginning financial statement (net worth)

2. You should use Unit II, Lesson 14 of Agricultural Management and Economics curriculum and the current Farmer's Tax Guide for information on calculating depreciation if the class is not aware of how depreciation is calculated. Point out to the class that methods of calculating depreciation are subject to change. They should check the Farmer's Tax Guide each year for updated information. Detailed descriptions are given for completing Forms 13 and 14. Point out that the different depreciation forms are basically the same, while emphasizing the differences. Use TM 2.1 through 2.6 when illustrating how each column is completed.

   How is depreciation recorded?

   a) Machinery and Equipment (Forms 13 and 14)
      1) Record the date purchased in column 1.
      2) Complete an item description for identification in column 2.
      3) Designate if the product is new or used in column 3.
      4) Cost information (columns 4 - 6) - The remaining book value of the trade-in is recorded. Total cost basis is equal to the cash difference paid minus the remaining value of the trade-in (column 6 = column 5 minus column 4).
      5) Record expensing or adjustments in column 7.

6) Column 8 has been left blank to account for any depreciation situations that may apply to the item being depreciated.
7) Record depreciation information (columns 9, 10, 11, and 12). The number of years and the method of depreciation depend on the month and year that the item is purchased. Depreciation taken in previous years should be recorded in column 12.
8) The remaining book value at the start of the year (column 13) is equal to the total cost basis minus depreciation taken in previous years (column 6 minus column 12).
9) Record the amount of depreciation taken during the current year in column 14.
10) Record the remaining book value of the item after the current year's depreciation has been deducted in column 15.
11) Columns 16 through 17g are used to record the current market value for the item that will be needed to complete the market value financial statement for the year.

b) Livestock for Breeding (Forms 15 and 16)
1) Much of the information is the same as Forms 13 and 14.
2) Information is recorded on a per head basis, as well as a per lot basis.
3) Animals with similar values should be grouped together. A "first in-first out" method is used to record changes in number of head being depreciated.

c) Real Estate (Forms 19 and 20)
1) The form is similar to Forms 13 and 14 in the type of information recorded.
2) Form 19 includes a section for a description of real estate owned. It can be used for the entire farm or for sections of the farm.
3) Form 20 includes a section to calculate the basis for land, which is based on the purchase price, settlement fees, buildings and improvements, timber, land, and dwellings.

3. Have students look at a copy of an inventory as it is discussed in class. You may want to provide a sample of a completed inventory as an illustration of how the form is completed. Use TM 2.7 and 2.8.

How are inventories completed?

a) Livestock (Form 17)
1) The livestock form is divided into three enterprise sections for both breeding and non-breeding.
2) Record purchased and raised animals separately.
3) Breeding animals are valued according to their remaining book value which is transferred from the livestock depreciation schedule (Form 15).
4) Non-breeding animals should be valued at current market value.

b) Feed, Crops, and Supplies (Form 18)
1) The Missouri Farm Planning Handbook can be used to determine values for many of the items on the inventory.
2) Purchased feeds should be valued at the purchase price.
3) Conservative values should be used when determining the value of stored and growing crops.
4) Supplies should be valued at the purchase price.

4. Only the lines on the financial statement that do not specify where the information is found are explained below. A financial statement should be provided to the class for viewing as the form is discussed.

How are financial statements completed?

a) A financial statement should be completed the first day of the year using the appropriate figures from inventory, depreciation schedules, etc.
b) Two types of financial statements are provided: book value and market value.
c) Cash in the farm account is equal to the bank balance at the beginning of the record keeping period.
d) Accounts receivable is money that is already earned, but not in possession of the farm business.
e) Annual payments on intermediate and long-term loans are transferred from Forms 23 and 24.
f) Record on line 18, accrued interest and taxes, the amount of outstanding taxes, and interest earned for the year at the time the financial statement is completed.
g) Non-farm assets are not recorded elsewhere in the record book. Conservative values should be assigned to the items listed to avoid improper evaluation of the business.
h) Non-farm liabilities can be found on Form 24.
i) Change in farm net worth is the difference between line M from the previous year to the current year. Specify if the change is an increase in net worth (+) or a decrease (-).
h) Contingent tax liability is the income tax bill that will come due if all farm property is liquidated.

F. Other activity

Using the sample entries, complete the opening records in the Missouri Farm Business Record Book.

G. Conclusion

Forms are available in the Missouri Farm Business Record Book that will assist in determining the worth of the farm business at the beginning of the record keeping period. These beginning forms are used at the end of the year to compare to ending forms to determine the amount of growth that has occurred in the farm business.

H. Competency

Complete the forms needed to open the Missouri Farm Business Record Book.

I. Answers to Evaluation

1. b
2. a
3. a
4. Answers should include two of the following: beginning inventory, depreciation schedules, beginning financial statement.
5. A financial statement provides a picture of the value of the farm business at a selected date and time.
6. A market value financial statement is used for credit purposes and contains the actual market value of all items. A book value financial statement is used for analysis purposes and uses the depreciated value of items in the farm business. The book value financial statement will not provide the farmer with the value of the items in the farm business if they were to be sold.

 Name _____

Lesson 2: Opening the Missouri Farm Business Record Book Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. At what value should purchased breeding livestock be valued?

   a. Current market value
   b. Book value from the depreciation schedule
   c. Long-range market value
   d. Purchase price
   e. Resale value

2. At what value should non-breeding livestock be valued?

   a. Current market value
   b. Long-range market value
   c. Purchase price
   d. Resale value
   e. Book value from the depreciation schedule

3. What is the income tax bill that will come due if all farm business property is liquidated?

   a. Accrued taxes
   b. Social security tax
   c. Import tax
   d. Contingent tax liability
   e. FICA tax

Complete the following short answer questions.

4. List two items needed to determine the financial standing of the farm business at the beginning of the record keeping system.

   a.

   b.

5. What is the purpose of a financial statement?

6. What is the difference between a market value financial statement and a book value financial statement?

FORM 13 **DEPRECIATION SCHEDULE: MACHINERY AND EQUIPMENT**

	DATE AC-QUIRED	ITEM DESCRIPTION (kind of machine, make, model, size)	NEW OR USED	COST INFORMATION			EXPENS-ING OR ADJUST-MENTS		DEPRECIATION INFO.				START	END 19___		END 19___		
				Remaining Book Value of Trade-in	Cash Difference Paid	Total Cost Basis			Balance for Depr.	Years	Method	Depr. Taken in Prior Years	Remain. Book Val. at Start of Year	Depr. This Year	Remain. Book Value	Depr. This Year	Remain. Book Value	
1.																		1.
2.																		2.
3.																		3.
4.																		4.
5.																		5.
6.																		6.
7.																		7.
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14.																		14.
15.																		15.
16.																		16.
17.																		17.
18.																		18.
19.																		19.
20.																		20.
21.																		21.
22.																		22.
23.																		23.
24.																		24.
25.																		25.
		Subtotals or Totals																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14a	15a	14b	15b	

DEPRECIATION SCHEDULE: MACHINERY AND EQUIPMENT Cont.

FORM 14

	END 19___		END 19___		END 19___		END 19___		END 19___		ESTIMATED CURRENT MARKET VALUE								
	Depr. This Year	Remain. Book Value	Depr. This Year	Remain. Book Value	Depr. This Year	Remain. Book Value	Depr. This Year	Remain. Book Value	Depr. This Year	Remain. Book Value	Start 19___	End 19___	End 19___	End 19___	End 19___	End 19___	End 19___	End 19___	
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20.																			20.
21.																			21.
22.																			22.
23.																			23.
24.																			24.
25.																			25.
	14c	15c	14d	15d	14e	15e	14f	15f	14g	15g	16	17a	17b	17c	17d	17e	17f	17g	

FORM 15 **DEPRECIATION SCHEDULE: LIVESTOCK FOR BREEDING**

	DATE ACQ.	ITEM DESCRIPTION	Head in Lot When Acq.	PER HEAD DATA						START 19___					END 19___					END 19___					
				Cost Basis		Expens-ing or Adjust.	Balance for Deprec.	Yrs.	Met-hod	Per Head			Per Lot		Per Head			Per Lot		Per Head			Per Lot		
										Depr. Prior Years	Remain. Book Value	Head	Depr. Prior Years	Remain. Book Value	Depr. This Year	Remain. Book Value	Head	Depr. This Year	Remain. Book Value	Depr. This Year	Remain. Book Value	Head	Depr. This Year	Remain. Book Value	
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		Subtotals or Totals																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15a	16a	17a	18a	19a	15b	16b	17b	18b	19b	

DEPRECIATION SCHEDULE: LIVESTOCK FOR BREEDING Cont. **FORM 16**

	END 19___					END 19___					END 19___					END 19___					ESTIMATED CURRENT MARKET VALUE							
	Per Head			Per Lot		Per Head			Per Lot		Per Head			Per Lot		Per Head			Per Lot		Per Lot							
	Depr. This Year	Remain. Book Value	Head	Depr. This Year	Remain. Book Value	Depr. This Year	Remain. Book Value	Head	Depr. This Year	Remain. Book Value	Dep. This Year	Remain. Book Value	Head	Depr. This Year	Remain. Book Value	Depr. This Year	Remain. Book Value	Head	Depr. This Year	Remain. Book Value	Start 19___	End 19___	End 19___	End 19___	End 19___	End 19___	End 19___	
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25.																												25.
	15c	16c	17c	18c	19c	15d	16d	17d	18d	19d	15e	16e	17e	18e	19e	15f	16f	17f	18f	19f	20	21a	21b	21c	21d	21e	21f	

FORM 19 **REAL ESTATE INVESTMENT AND DEPRECIATION RECORD**

DESCRIPTION: _____

TRACT NUMBER: _____ DATE ACQUIRED: _____ NUMBER OF ACRES: _____

LEGAL DESCRIPTION: _____

_____

	DATE ACQUIRED	DESCRIPTION (Depreciable buildings, fences, and improvements)	COST INFORMATION				YEARS	METHOD	DEPR. TAKEN IN PRIOR YEARS	START 19__	
			Total Cost Basis	Expensing or Adjustment		Balance for Depreciation				Remaining Book Value at Yr. Start	
1.											1.
2.											2.
3.											3.
4.											4.
5.											5.
6.											6.
7.											7.
8.											8.
9.											9.
10.											10.
11.											11.
12.											12.
13.											13.
14.											14.
A.		TOTAL DEPRECIABLE BUILDINGS AND IMPROVEMENTS									A.
15.		Land									15.
16.		Non-depreciable improvements to dwelling and land									16.
17.		Non-depreciable (dwelling)									17.
B.		TOTAL VALUE OF TRACT									B.

REAL ESTATE INVESTMENT AND DEPRECIATION RECORD Cont. **FORM 20**

ORIGINAL BASIS ALLOCATED TO LAND:
purchase price, carry over basis, other (a)_____
settlement fees (undeducted) (b)_____

TOTAL ORIGINAL BASIS (lines a + b) (c)_____
less portion of basis allocated to buildings and improvements (d)_____
less portion of basis allocated to timber (e)_____
less portion of basis allocated to dwelling (f)_____

ORIGINAL BASIS ALLOCATED TO LAND (line c - d, e, and f) (g)_____

	END 19___		END 19___		END 19___		END 19___		END 19___		END 19___		ESTIMATED CURRENT MARKET VALUE							
	Depr. This Year	Remaining Book Value	Depr. This Year	Remaining Book Value	Depr. This Year	Remaining Book Value	Depr. This Year	Remaining Book Value	Depr. This Year	Remaining Book Value	Depr. This Year	Remaining Book Value	Start 19__	End 19__	End 19__	End 19__	End 19__	End 19__	End 19__	
1.																				1.
2.																				2.
3.																				3.
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13.																				13.
14.																				14.
A.																				A.
15.																				15.
16.																				16.
17.																				17.
B.																				B.

FORM 17 **ANNUAL INVENTORY OF LIVESTOCK**

		START 19___				END 19___				END 19___				END 19___				
	ENT:	No. of Head	Average Wt.	Price Per Unit	Total Value	No. of Head	Average Wt.	Price Per Unit	Total Value	No. of Head	Average Wt.	Price Per Unit	Total Value	No. of Head	Average Wt.	Price Per Unit	Total Value	
	BREEDING																	
1.	Purchased (Form 15 or 16)																	1.
2.	Raised																	2.
3.																		3.
4.	TOTAL BREEDING																	4.
	NON-BREEDING																	
5.	Purchased																	5.
6.	Raised																	6.
7.																		7.
8.	TOTAL NON-BREEDING																	8.
9.	TOTAL ENTERPRISE																	9.
	ENT:																	
	BREEDING (Form 15 or 16)																	
1.	Purchased																	1.
2.	Raised																	2.
3.																		3.
4.	TOTAL BREEDING																	4.
	NON-BREEDING																	
5.	Purchased																	5.
6.	Raised																	6.
7.																		7.
8.	TOTAL NON-BREEDING																	8.
9.	TOTAL ENTERPRISE																	9.
	ENT:																	
	BREEDING																	
1.	Purchased (Form 15 or 16)																	1.
2.	Raised																	2.
3.																		3.
4.	TOTAL BREEDING																	4.
	NON-BREEDING																	
5.	Purchased																	5.
6.	Raised																	6.
7.																		7.
8.	TOTAL NON-BREEDING																	8.
9.	TOTAL ENTERPRISE																	9.
A.	FORM TOTAL																	A.

INVENTORY OF FEED, CROPS, AND SUPPLIES

FORM 18

	ITEM DESCRIPTION	START 19___			END 19___			END 19___			END 19___			
		Quantity	Price Per Unit	Total Value	Quantity	Price Per Unit	Total Value	Quantity	Price Per Unit	Total Value	Quantity	Price Per Unit	Total Value	
1.	Purchased Feeds													1.
2.	Supplement and Minerals													2.
3.														3.
4.														4.
A.	TOTAL PURCHASED FEEDS (lines 1 thru 4)													A.
5.	Corn													5.
6.	Wheat													6.
7.	Grain Sorghum													7.
8.	Soybeans													8.
9.														9.
10.	Silage													10.
11.														11.
12.	Hay													12.
13.														13.
14.	Straw													14.
B.	TOTAL STORED CROPS (lines 5 thru 14)													B.
15.	Growing Crops													15.
16.														16.
C.	TOTAL GROWING CROPS (lines 15 + 16)													C.
17.	Seeds													17.
18.	Fertilizer, Lime Applied													18.
19.	Fertilizer Stored													19.
20.														20.
21.	Chemicals													21.
22.														22.
23.	Twine, etc.													23.
24.	Fuel													24.
25.														25.
26.	Oil													26.
27.	Grease													27.
28.	Vet. Supplies													28.
29.	Livestock Supplies													29.
30.	Bedding													30.
31.	Other Supplies													31.
D.	TOTAL SUPPLIES (lines 17 thru 31)													D.
32.														32.
E.	TOTAL OTHER (line 32)													E.
F.	FORM TOTAL (lines A + B + C + D + E)													F.

FORM 25 **BOOK VALUE: FINANCIAL STATEMENT**

		19___		19___	19___	19___
		Start	End	End	End	End
	FARM ASSETS					
1.	Cash in Farm Account					
2.	Accounts Receivable					
3.	Non-Breeding Livestock (Form 17)					
4.						
5.						
6.						
7.	Grain and Feed (Form 18, line A + B + C)					
8.	Seed, Fertilizer, and Supplies (Form 18, line D)					
A.	TOTAL CURRENT ASSETS (lines 1 thru 8)					
9.	Machinery and Equipment (Form 13 or 14)					
10.	Breeding Livestock (Form 15 or 16)					
11.						
12.						
13.						
B.	TOTAL INTERMEDIATE ASSETS (lines 9 thru 13)					
14.	Farm Land (Form 20)					
15.	Farm Buildings and Improvements (Form 20)					
C.	TOTAL LONG-TERM ASSETS (lines 14 + 15)					
D.	TOTAL FARM ASSETS (lines A + B + C)					
	FARM LIABILITIES					
16.	Notes and Accounts Payable (Form 24)					
17.	Annual Payments on Intermediate and Long-Term Loans					
18.	Accrued Interest and Taxes					
19.						
E.	TOTAL CURRENT LIABILITIES (lines 16 thru 19)					
20.	Notes: Machinery and Equipment (Form 23)					
21.	Notes: Breeding Livestock (Form 23)					
22.						
F.	TOTAL INTERMED. LIABILITIES (lines 20 + 21 + 22)					
23.	Farm Real Estate Loans (Form 23)					
24.						
G.	TOTAL LONG-TERM LIABILITIES (lines 23 + 24)					
H.	TOTAL FARM LIABILITIES (lines E + F + G)					
I.	FARM NET WORTH (line D - line H)					
J.	CHANGE IN FARM NET WORTH					

		19___		19___	19___	19___
		Start	End	End	End	End
	NON-FARM ASSETS					
25.	Family Bank Balance					
26.	Savings Account					
27.	Stocks and Bonds					
28.	IRA's					
29.	Life Insurance (cash value)					
30.	Household Goods					
31.	Non-Farm Real Estate					
32.	Family Share Auto					
33.	Boat, Camper, Guns, etc.					
34.	PIK Certificates					
35.						
36.	Other Investments or Assets					
K.	TOTAL NON-FARM ASSETS (lines 25 thru 36)					
	NON-FARM LIABILITIES					
37.	Charge Accounts:					
38.						
39.						
40.	Notes:					
41.						
42.						
43.	Mortgages:					
44.						
L.	TOTAL NON-FARM LIABILITIES (lines 37 thru 44)					
M.	NON-FARM NET WORTH (line K - line L)					
N.	CHANGE IN NON-FARM NET WORTH					
O.	TOTAL NET WORTH (line I + line M)					
P.	CHANGE IN TOTAL NET WORTH					
Q.	CONTINGENT TAX LIABILITIES					
	FARM BUSINESS FINANCIAL RATIOS					
R.	Liquidity - $\frac{\text{Current Assets}}{\text{Current Liabilities}}$ = line A divided by line E					
S.	Debt : Asset - $\frac{\text{Total Liabilities}}{\text{Total Assets}}$ = line H divided by line D					

MARKET VALUE: FINANCIAL STATEMENT

FORM 26

		19___		19___	19___	19___
		Start	End	End	End	End
	FARM ASSETS					
1.	Cash in Farm Account					
2.	Accounts Receivable					
3.	Non-Breeding Livestock (Form 17)					
4.						
5.						
6.						
7.	Grain and Feed (Form 18, lines A + B + C)					
8.	Seed, Fertilizer, and Supplies (Form 18, line D)					
A.	TOTAL CURRENT ASSETS (lines 1 thru 8)					
9.	Machinery and Equipment (Form 14)					
10.	Breeding Livestock (Form 17)					
11.						
12.						
13.						
B.	TOTAL INTERMEDIATE ASSETS (lines 9 thru 13)					
14.	Farm Land (Form 20)					
15.	Farm Buildings and Improvements (Form 20)					
C.	TOTAL LONG-TERM ASSETS (lines 14 + 15)					
D.	TOTAL FARM ASSETS (lines A + B + C)					
	FARM LIABILITIES					
16.	Notes and Accounts Payable (Form 24)					
17.	Annual Payments on Intermediate and Long-Term Loans					
18.	Accrued Interest and Taxes					
19.						
E.	TOTAL CURRENT LIABILITIES (lines 16 thru 19)					
20.	Notes: Machinery and Equipment (Form 23)					
21.	Notes: Breeding Livestock (Form 23)					
22.						
F.	TOTAL INTERMED. LIABILITIES (lines 20 + 21 + 22)					
23.	Farm Real Estate Loans (Form 23)					
24.						
G.	TOTAL LONG-TERM LIABILITIES (lines 23 + 24)					
H.	TOTAL FARM LIABILITIES (lines E + F + G)					
I.	FARM NET WORTH (line D - line H)					
J.	CHANGE IN FARM NET WORTH					

		19___		19___	19___	19___
		Start	End	End	End	End
	NON-FARM ASSETS					
25.	Family Bank Balance					
26.	Savings Account					
27.	Stocks and Bonds					
28.	IRA's					
29.	Life Insurance (cash value)					
30.	Household Goods					
31.	Non-Farm Real Estate					
32.	Family Share Auto					
33.	Boat, Camper, Guns, etc.					
34.	PIK Certificates					
35.						
36.	Other Investments or Assets					
K.	TOTAL NON-FARM ASSETS (lines 25 thru 36)					
	NON-FARM LIABILITIES					
37.	Charge Accounts:					
38.						
39.						
40.	Notes:					
41.						
42.						
43.	Mortgages:					
44.						
L.	TOTAL NON-FARM LIABILITIES (lines 37 thru 44)					
M.	NON-FARM NET WORTH (line K - line L)					
N.	TOTAL NET WORTH (line I + line M)					
O.	CHANGE IN TOTAL NET WORTH					
P.	CONTINGENT TAX LIABILITIES					
	FARM BUSINESS FINANCIAL RATIOS					
Q.	Liquidity - $\frac{\text{Current Assets}}{\text{Current Liabilities}}$ = line A divided by line E					
R.	Debt : Asset - $\frac{\text{Total Liabilities}}{\text{Total Assets}}$ = line H divided by line D					

Lesson 2: Opening the Missouri Farm Business Record Book

An important part of farming is being able to use records to determine where the farm business is at the present and to determine where it should be in the future. The Missouri Farm Business Record Book provides the opportunity for a complete set of records that will assist in measuring the current value of the farm business, as well as providing a basis for future decisions.

Opening the Record Book

An important aspect in analyzing the farm business is providing a basis of comparison to determine if growth has occurred. Many people will look at the checkbook balance or at the previous year's income tax return. While both will give a limited amount of information, several other forms should be examined before you can accurately see where the farm business stands. A beginning inventory, depreciation schedules, and beginning financial statement of net worth will be helpful in determining the true financial status of the farm business.

Recording Depreciation

Depreciation should be calculated according to the guidelines in the current Farmer's Tax Guide. The information should then be recorded on the correct depreciation schedule.

Machinery and Equipment - Depreciation taken on machinery and equipment is recorded on Forms 13 and 14 of the Missouri Farm Business Record Book. The date acquired should match the receipts entry for the item. The date will later become important in determining which convention applies when calculating depreciation for the item. The item description should be complete so that similar pieces of machinery and equipment may be distinguished and identified at a later date. You should designate if the item purchased was new or used.

The remaining book value of the trade-in is recorded in the cost information section. Total cost basis is equal to the cash difference paid plus the remaining value of the trade-in (column 6 = column 5 plus column 4). If the trade-in has been depreciated out, the book value is zero, even though the dealer may have given you a market value price for the item.

If expensing or adjustments to the item are taken, they should be recorded in column 7. You should refer to the Farmer's Tax Guide for the current year to determine special tax situations for which the item may be eligible. Column 8 has been left blank to account for any depreciation situations that may apply to the item for which no column is designated. Column 8 also provides flexibility of the depreciation schedule to adapt to new tax laws.

Depreciation information - The balance for depreciation is equal to the total cost basis minus any expensing or adjustments that are taken for the item (column 9 = column 6 minus column 7). The number of years and the method of depreciation depend on the month and year the item is purchased. Depreciation taken in previous years should be recorded in column 12.

The remaining book value at the start of the year (column 13) is equal to the total cost basis (column 6) minus depreciation taken in previous years (column 12). The following columns are used to record depreciation for multiple years so that the information will not need to be rewritten each year. The depreciation for the year is calculated and recorded in column 14. Record in column 15 the remaining book value of the item after the current year's depreciation has been deducted.

Columns 16 through 17g are used to record the current market value for the item that will be needed to complete the market value financial statement for the year.

Livestock for Breeding - The forms used to complete the livestock depreciation schedule are basically the same as those used to record depreciation for machinery and equipment. The significant difference is that information is recorded on a per head, as well as per lot basis. Animals with similar values may be grouped together to reduce the amount of calculations if the same MACRS convention applies to all animals in the group. By grouping animals, you may save time and space in calculating and recording depreciation. A "first in - first out method" is used to record depreciation for animals that are grouped on the depreciation schedule. For example, you have twenty-five cows in a group that are being depreciated together. You purchase 10 more cows (within the same MACRS convention) and add them to the group on the depreciation schedule. At a later date, you sell 5 of the cows. You should subtract the 5 cows sold from the first group of twenty-five cows and reduce the inventory value based on the amount of depreciation that has been taken on the first group. The amount of depreciation taken on one animal in a group and the remaining book value is multiplied times the number of head in the group.

Real Estate - The information to be completed in the box on the top of Form 19 includes a description of real estate owned in the farm business. You may complete this form for the entire farm or for different sections of the farm. The information in the box on Form 20 is needed to determine the value of farm land. The purchase price is equal to the price paid for the land at the time it was purchased. Any settlement fees that occurred in the purchase of the land should be added to the purchase price. Deductions from the purchase price are taken for buildings, timber, and dwellings located on the property. The resulting figure is the basis used to value the land for the farm. The figure on line g of Form 20 is transferred to line 15 on Form 19 as the value for land. Any non-depreciable improvements made to the land are deducted, as well as the value of the original basis of the dwelling.

Completing Inventories

An inventory should be taken at the start of the record keeping period. The date should be recorded under the Start 19__ heading. Thereafter, an inventory should be taken and recorded the last day of the year.

Livestock (Form 17) - The form is divided into three enterprise sections. Record the name of the enterprise on the blanks provided. Each section is further divided into breeding and non-breeding categories. You should record purchased and raised animals separately since raised breeding animals cannot usually be depreciated. Purchased breeding animals are valued according to their remaining book value which is transferred from the livestock depreciation schedule (Form 15). Non-breeding animals should be valued at the current market value. Raised breeding animals are valued at a long-term market value. Each section should be totalled as indicated on the form. The form total will give you the total livestock value.

Feed, Crops, and Supplies - The Missouri Farm Planning Handbook (Manual 75) can be used to determine values for many of the items on the inventory. Purchased feeds should be valued at the purchase price. Conservative current market values should be used when determining the value of stored and growing crops. Supplies should be valued at the purchase price. Total each section as indicated. The form total will give you the total value of feed, crops, and supplies.

Completing Financial Statements

A financial statement, also referred to as a balance sheet, relates the financial picture on a selected date and time. A financial statement should be completed the first day of the year using appropriate values from inventories, depreciation schedules, etc. Two types of financial statements are provided: book value and market value. The market value financial statement is completed for credit purposes. A market value for most items should have already been recorded on the appropriate forms. The book value financial statement records the depreciated (book) value of items in the farm business and is completed for analysis purposes.

The following paragraphs discuss only the lines that are not transferred from another form. Cash in the farm account is equal to the bank balance at the beginning of the record keeping period. Accounts receivable (money that is owed to you but is not yet received) is not recorded on any other form in the record book. All money that is earned, but not in possession of the farm business should be recorded here. Annual payments on intermediate and long-term loans are transferred from Forms 23 and 24. On line 18, accrued interest and taxes, record the interest earned plus any outstanding taxes at the time of the financial statement.

Non-farm assets are not recorded on any other form in the record book. Conservative values should be assigned to the items listed to avoid improper evaluation of the farm business. Non-farm liabilities are recorded on Form 24. Remember to keep them separate from the farm liabilities when completing the financial statement. Change in total net worth (Form 25, line P or Form 26, line O) is the difference between line O (line N for Form 26) from the previous year to the current year. Specify if the change is an increase (+) or a decrease (-) in net worth. Contingent tax liability is the income tax bill that will come due if all farm property is liquidated.

Credits

Agricultural Management and Economics. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

Farmer's Tax Guide (Publication 225). Department of Treasury: Internal Revenue Service, Revised October, 1988.

Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: College of Agriculture-Extension Division.

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 3: Developing a Projected Cash Flow

Objective: The student will be able to project cash flow for the farm business.

Study Questions

1. **Who is involved in cash flow planning?**
2. **What are the parts of a cash flow plan?**
3. **Why should you develop a projected cash flow?**
4. **Why should non-farm cash flow be considered?**
5. **What are the steps in developing a projected cash flow?**

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Developing Programs of Supervised Agricultural Experience (Unit IV Handouts). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [For adult instruction only]
3. Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
4. Sample Entries for the Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
5. Sample Entries for the Missouri Farm Business Record Book (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]
6. Transparency Masters

   a) TM 3.1: Table C-2. Corn Budgets
   b) TM 3.2: Table C-9. Mixed and Grass Hay Budgets
   c) TM 3.3: Table C-10. Pasture Budgets
   d) TM 3.4: Table L-8. Beef Cow Budgets, Spring Calving
   e) TM 3.5: Farm Business Cash Flow (Form 27)
   f) TM 3.6: Farm Business Cash Flow (Form 27 cont.)

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 3: Developing a Projected Cash Flow

TEACHING PROCEDURES

A. Review

Review the previous lesson.

B. Motivation

What would happen if you were to eliminate one of the enterprises on your farm and replace it with another? Would you make more money? Would your credit needs increase? How much time and labor would be involved? Lead the discussion to reveal that many decisions need to be made when planning for the coming year and that a projected cash flow can provide assistance to the farmer in making these decisions.

C. Assignment

D. Supervised study

E. Discussion

1. Several people are involved in cash flow planning; each will have different interests in the farm business. Discuss with the class the people who would be involved in the cash flow planning process.

   Who is involved in cash flow planning?

   a) Owners - including husband or wife
   b) Partner
   c) Student
   d) Lender
   e) Farm manager

2. A cash flow plan is like a cash flow summary, except you are working with expected receipts and expenses. Ask the class to identify the parts of the cash flow plan. On the "Farm Business Cash Flow" (Form 27), place a check on the blank next to "plan" located on the top of the form to indicate a cash flow plan.

   What are the parts of a cash flow plan?

   a) Expected receipts (including money borrowed)
   b) Expected expenditures (including principal paid)
   c) Expected cash balance
   d) Expected credit balance

3. It is difficult to accurately determine the amount of money that will be made in a year. A cash flow plan is used to estimate the profitability of a farm business or enterprise. Ask the class to list reasons for developing a cash flow plan.

Why should you develop a projected cash flow?

a) To determine credit needs
b) To test ideas
c) To lower credit costs
d) To develop a sound financial plan
e) To utilize tax planning

4. Non-farm cash flow is important when determining the cash flow of the farm business. Money may need to be transferred from the farm business for personal expenses or vice versa. Ask the class to explain why non-farm cash flow should be included in the cash flow plan.

Why should non-farm cash flow be considered?

a) To see if sufficient capital will be available to cover family living expenses
b) To determine if extra income will be available to support farm enterprises

5. Students should have copies of Form 27 available to work through a projected cash flow. Use HO 3.2 and TM 3.1 through TM 3.5 cont. to illustrate the sample projected cash flow. If time allows, the class should develop projected cash flows for their farm business. Blank copies of the Manual 75 budgets and Form 27 used in the sample are provided for use by the teacher as transparencies. You may either fill in the information to match the sample or use the transparency masters to work through another example on the overhead projector.

What are the steps in developing a projected cash flow?

a) Identify enterprise plans.
b) Identify other costs and returns.
c) Identify family living estimates.
d) Complete a projected cash flow on Forms 27 and 28.
e) Make adjustments where needed.

F. Other activities

G. Conclusion

A projected cash flow is one of the most useful management tools available to a farmer. It can be used to estimate income from various enterprises or for the farm as a whole. It can be used to determine if non-farm and farm receipts will cover all expenditures.

H. Competency

Develop a projected cash flow.

I. Answers to Evaluation

1. Identify enterprise plans.
2. To see if sufficient capital will be available to cover family living expenses
   To determine if extra income will be available to support farm enterprises
3. Three of the following:
   a) To determine credit needs
   b) To test ideas

c) To lower credit costs
d) To develop a sound financial plan
e) To utilize tax planning

4. Owners - including husband or wife, partners, student, lender, farm manager

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK Name _____

Lesson 3: Developing a Projected Cash Flow Date _____

EVALUATION

Complete the following short answer questions.

1. What is the first step in developing a projected cash flow?

2. Why should non-farm cash flow be considered when projecting cash flow?

3. What are three things that a projected cash flow can help you plan?

   a.

   b.

   c.

4. Who should help when planning the cash flow for the farm business?

TABLE C-2. CORN BUDGETS

		IRRIGATED			MY FARM
1.	Yield, bu. per acre (13% moisture)	80	100	140	_____
2.	Price per bushel[1]	$ 2.35	$ 2.35	$ 2.35	$_____
3.	Gross income per acre	$188.00	$235.00	$329.00	$_____
4.	VARIABLE COSTS PER ACRE:				
5.	Seed	$ 15.00	$ 17.00	$ 20.00	$_____
6.	Fertilizer and lime[2]	34.00	44.00	55.00	_____
7.	Crop chemicals and supplies	20.00	20.00	20.00	_____
8.	Custom machine hire	5.00	5.00	5.00	_____
9.	Machinery: fuel, oil, repairs	29.00	31.00	35.00	_____
10.	Hauling and drying @ $.15/bu.	12.00	15.00	21.00	_____
11.	Miscellaneous @ 5%	6.00	6.50	8.00	_____
12.	Other: irrigation fuel, repairs, and maintenance	--	--	32.00	_____
13.	Interest[3]	6.50	7.50	11.00	_____
14.	TOTAL VARIABLE COSTS[4]	$127.50	$146.00	$207.00	$_____
15.	INCOME OVER VARIABLE COSTS[5]	$ 60.50	$ 89.00	$122.00	$_____
16.	Labor hours	3.1 hrs.	3.2 hrs.	4.0 hrs.	_____hrs.

[1]Price is expected 3-year average annual price at the farm.

[2]Fertilizer costs are estimated: N (anhydrous) @ 15¢, N (dry) @ 22¢, P_2O_5 @ 21¢, and K_2O @ 10¢ per pound for typical application rates. Annual share of liming cost is estimated at $4.00 per acre. 80 bu. yield: 110-40-50. 100 bu. yield: 130-60-80. Irrigated corn (140 bu. yield): 180-70-90. Two-thirds of N supplied by anhydrous.

[3]Interest charge is computed at 11% per annum on one-half of Items 5 through 12.

[4]Other costs include: labor and ownership (fixed costs). See Table C-11.

[5]Income to pay land, machinery, facilities, labor, and management.

Credit: Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: University Extension, 1986.

TABLE C-9. MIXED AND GRASS HAY BUDGETS

Description of Production: Two cuttings; 7' mower; 7' hay conditioner; side delivery rake; square baler; fertilizer custom spread; establishment cost amortized over 5 years.

	GRASS + LEGUME	GRASS + NITROGEN	
Field yield at harvest	3 T.	5 T.	MY FARM
1. Yield, tons per acre (11% moisture)	2.5	2.5	_____
2. Price per ton	$ 50	$ 45	$_____
3. Gross income per acre	$125	$113	$_____
4. VARIABLE COSTS PER ACRE:[1]			
5. Establishment cost	$ 11	$ 6	$_____
6. Fertilizer and lime[2]	18	36	_____
7. Crop chemicals and supplies	$7 or $2	$7 or $2	_____
8. Custom machine hire	0 or $87	0 or $87	_____
9. Machinery: fuel, oil, repairs	$32 or $3	$30 or $2	_____
10. Storage	--	--	_____
11. Miscellaneous	2	2	_____
12. Other: _____	--	--	_____
13. Interest[3]	$4 or $7	$4 or $7	_____
14. TOTAL VARIABLE COSTS	$74 or $130	$85 or $142	$_____
15. INCOME OVER VARIABLE COSTS	$51 or (-$5)	$28 or (-$29)	$_____
16. Labor hours	6 or 1 hrs.	6 or 1 hrs.	_____hrs.

[1] Ranges are given in variable costs to approximate differences between harvest by owner with owned equipment (left side) and complete harvest by custom operator (right side). Fixed costs (not included above) are much higher with owner harvested hay.

[2] Fertilizer costs reflect annual lime costs of $4 per year and 0-40-100 and 80-40-100, respectively, for grass-legume and grass-N budgets, priced at 22¢, 21¢, and 10¢ for N, P_2O_5, and K_2O.

[3] Interest charge is computed at 11% per year on one-half of Items 5 through 12.

Credit: Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: University Extension, 1986.

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TABLE C-10. PASTURE BUDGETS

Description of Production: Mow one time per year; custom application of fertilizer as needed; annual establishment cost includes reseeding legume.

		GRASS	GRASS-LEGUME	GRASS-NITROGEN	MY FARM
1.	Yield, AUM per acre	3 AUM	5 AUM	6 AUM	_____
2.	Price per AUM[1]	$ 7.00	$ 7.00	$ 7.00	$_____
3.	Gross income per acre	$ 21	$ 35	$ 42	$_____
4.	VARIABLE COSTS PER ACRE:				
5.	Establishment cost (annual share)	$ 4	$ 9	$ 4	$_____
6.	Fertilizer and lime[2]	6	14	36	_____
7.	Crop chemicals and supplies	1	2	2	_____
8.	Custom machine hire	--	--	--	_____
9.	Machinery: fuel, oil, repairs	2	2	3	_____
10.	Miscellaneous	--	--	--	_____
11.	Other: _____	--	--	--	_____
12.	Interest[3]	1	1	2	_____
13.	TOTAL VARIABLE COSTS	$ 14	$ 28	$ 47	$_____
14.	INCOME OVER VARIABLE COSTS	$ 7	$ 7	(-$ 5)	$_____
15.	Labor hours	1 hr.	1.5 hrs.	1.5 hrs.	_____hrs.

[1] Price is the estimated 5-year market rental rate. The inherent value for producing livestock can be substantially higher or lower than this rental price whenever livestock prices change faster than grass rental rates.

[2] Fertilizer costs include average lime costs of $2 (3 AUM), $4 (grass-legume), and $4 (grass-N), along with average annual applications of 0-10-20, 0-25-50, and 100-25-50, respectively, for grass (3 AUM), grass-legume, and grass-N (6 AUM), along with application costs. Expected fertilizer prices: 22¢ N, 21¢ P_2O_5, and 10¢ K_2O.

[3] Interest charge is computed at 11% per year on one-half of Items 5 through 11.

Credit: Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: University Extension, 1986.

TABLE L-8. BEEF COW BUDGET, SPRING CALVING

Description of Production: March-April calves, 87% calf crop, 400 lb. calves sold in October, 15% replacement rate, and 1% cow loss.

			MY FARM
1. Details of gross receipts:			
Calves sold: .87 calf minus .15 repl. hfr. = .72 calf	.72 x 400 lbs. @ $65	$187	
Cows sold: 14% culled	.14 x 975 lbs. @ $37	51	
2. GROSS RECEIPTS PER COW		$238	
3. Feed:			
Corn equivalent, $2.35/bu.		--	
Protein, salt, minerals, & additives, $10/cwt.	1.2 cwt.	$ 12	
Corn silage, $18.50/T.		--	
Mixed hay, $50/T.		--	
Grass hay, $45/T.	1.1 T.	50	
Pasture, $7/AUM	11.4 AUM	80	
4. TOTAL FEED COSTS		$142	
5. Machinery costs, feed preparation, etc.		$ 8	
6. Veterinary & medicine		5	
7. Other livestock materials & services[1]		13	
8. Util., ins., repair, misc.		5	
9. Operating interest[2]		10	
10. TOTAL OTHER VARIABLE COSTS (add Lines 5 through 9)		$ 41	
11. TOTAL ALL VARIABLE COSTS (Line 4 + Line 10)		$183	
12. INCOME OVER VARIABLE COSTS[3] (Line 2 minus Line 11)		$ 55	
13. Labor hours		5.5 hrs.	
14. Breeding herd investment		$450	

[1]Includes commission, yardage, and hauling costs as well as bull depreciation.

[2]Half of sum of Lines 4 through 8 times 11% interest. Does not include interest on breeding herd investment.

[3]Other cash costs such as real estate and property taxes, building insurance and repairs, hired labor, and other overhead expenses are to be accounted for on Form 6, FM 7536.

Credit: Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: University Extension, 1986.

19 ___ FARM BUSINESS CASH FLOW — Plan ___ or Summary ___ — FORM 27

		JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL	
	RECEIPTS														
1.	Crop Sales														1.
2.															2.
3.															3.
4.															4.
5.															5.
6.															6.
7.	Crop Insurance Proceeds														7.
8.	Government Payments: Cash														8.
9.	Government Payments: Other														9.
10.	CCC Loans														10.
11.	Custom Work														11.
12.	Patronage Dividends														12.
13.	Resales and Settlements														13.
14.	Cash Rent														14.
15.	Non-Breeding Livestock														15.
16.															16.
17.															17.
18.	Livestock Products														18.
19.															19.
20.															20.
21.	Other Farm Receipts														21.
22.															22.
23.															23.
24.															24.
25.															25.
26.															26.
A.	TOTAL OPERATING SALES (lines 1 thru 26)														A.
27.	Breeding Livestock														27.
28.															28.
29.															29.
30.	Equipment, Building, and Land Sales														30.
B.	TOTAL CAPITAL SALES (lines 27 thru 30)														B.
C.	TOTAL FARM RECEIPTS (lines A + B)														C.
31.	Money Borrowed - Farm														31.
D.	NON-FARM RECEIPTS (Form 28, line A)														D.
E.	TOTAL DOLLARS AVAILABLE (lines C + 31 + D)														E.

	EXPENDITURES														
32.	Breeding Fees														32.
33.	Chemicals														33.
34.	Conservation														34.
35.	Feed														35.
36.															36.
37.															37.
38.															38.
39.	Fertilizer and Lime														39.
40.	Freight and Trucking														40.
41.	Gasoline, Fuel, and Oil														41.
42.	Insurance														42.
43.	Interest: Mortgage														43.
44.	Interest: Other														44.
45.	Labor Hired														45.
46.	Machine Hire														46.
47.	Cash Rent														47.
48.	Repairs: Machine														48.
49.	Repairs: Building and Fences														49.
50.	Seeds and Plants														50.
51.	Storage														51.
52.	Supplies														52.
53.	Taxes														53.
54.	Utilities - Farm Share														54.
55.	Veterinarian and Medicine														55.
56.	Miscellaneous Farm Expenditures														56.
57.															57.
58.	Non-Breeding Livestock														58.
59.															59.
F.	TOTAL OPERATING EXPENDITURES (lines 32 thru 59)														F.
60.	Breeding Livestock														60.
61.															61.
62.	Machinery, Equipment, and Fence														62.
63.	Land and Buildings														63.
G.	TOTAL CAPITAL EXPENDITURES (lines 60 thru 63)														G.
H.	TOTAL FARM EXPENDITURES (lines F + G)														H.
64.	Principal Paid on Borrowed Funds														64.
I.	NON-FARM EXPENDITURES (Form 28, line B)														I.
J.	TOTAL DOLLARS USED (lines H + 64 + I)														J.
K.	CASH DIFFERENCE FOR MONTH (lines E - J)														K.
L.	CASH BAL. END OF MONTH (last month line L + K)														L.
M.	CREDIT BAL. (last month lines M + 31 - 64)														M.
		JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL	

Lesson 3: Developing a Projected Cash Flow

A projected cash flow is particularly important to a farmer because of the constant change in agricultural prices. Cash flow planning will help a farmer cope with the uncertainty involved in farming. By developing a projected cash flow, the owner can estimate the profitability of an enterprise or of the farm business before actually beginning production.

Planning the Cash Flow

There are several people that should be involved in cash flow planning for the farm business. The type of organization of the farm business will determine the people that should be involved in planning. If the operation is family owned, the husband/wife will need to be involved. Any partners in the farm business should also be included. If the farm business is operated as a part of the Supervised Agricultural Experience Program for a high school student, both the student and parents may need to be involved. If money will need to be borrowed to operate the business, the lender(s) should be involved in planning cash flow. Lenders want a projected cash flow for your farm business to determine if they should loan money for the operation of the business. The amount of borrowed money will be important when deciding dollars available to operate the farm business. If the farm has a manager that isn't the owner, he or she should be involved.

Parts of a Cash Flow Plan

A cash flow plan is very similar to a cash flow summary. The difference between the two is that the cash flow summary uses figures from actual transactions that have occurred during the year. The cash flow plan is "expected" receipts and expenditures for the year. An expected cash balance and expected credit balance are used to estimate the cash flow of the operation for the year. On the Farm Business Cash Flow (Form 27), place a check on the blank next to "plan" located on the top of the form to indicate a cash flow plan.

Reasons For a Projected Cash Flow

Determine credit needs. - A projected cash flow will let you know if, where, and when credit will be needed. Some people will argue that in the short run, lenders are more interested in cash flow than profitability. They want to be sure they get their money back. Lenders like a well-planned cash flow because it can eliminate the need for additional borrowing due to unexpected expenditures.

Test ideas. - A projected cash flow will allow you to test a plan for the year on paper. If a plan won't show a profit or desired cash flow on paper, it probably won't in actual practice. Many times, after doing a planned cash flow, it is obvious that some decisions need to be made to make the farm more profitable.

Lower credit costs. - A projected cash flow will often result in lower credit costs. Some lenders have lower interest rates for customers that do a good job of cash flow planning and who can arrange their credit needs well in advance of the time needed. Also, since most farm loans charge interest only on the unpaid balance, the total interest charge is often less with a planned cash flow because principal may be paid faster -- even though it may be necessary to borrow again in thirty to sixty days.

Develop a sound financial plan. - Less impulse buying and selling should result from a projected cash flow. This may be one of the most profitable advantages of a cash flow plan.

Utilize tax planning. - The projected cash flow will help even out income from year to year and result in lower taxes to be paid.

Non-Farm Cash Flow

Non-farm cash flow should be considered when planning the cash flow for the farm business. Money earned outside the farm business may be needed to cover expenses for the farm business to avoid borrowing money. On the other hand, money from the farm business may be needed to cover family living expenses.

Steps in Developing a Projected Cash Flow

Identify enterprise plans. - The first step in developing a projected cash flow is to identify the enterprises that will be included in your operation. When the enterprises have been identified, determine the monthly distribution of costs for each enterprise. An advantage to the projected cash flow is that it will allow you to add, expand, or delete enterprises to estimate what effect this would have on your operation. Cash available to cover expenditures should be carefully considered when determining the types of enterprises that will be included in the farm business. The Missouri Farm Planning Handbook (Manual 75) is an excellent resource for developing a projected cash flow. It contains budgets for many of the enterprises that are found on most farms. Refer to Manual 75 when determining other costs associated with the enterprises on your farm. Work through the budgets for the enterprises on your farm to determine your estimated total cost.

Identify other costs and returns. - Other costs or returns that will be associated with production for the coming year should also be considered when projecting the cash flow for the farm business. Overhead costs and purchases of capital items needed to conduct an enterprise are examples of other costs.

Identify family living estimates. - Family living expenditures can also be projected to determine if the farm income, combined with non-farm income, will be sufficient to support the farm business as well as the family.

Complete a projected cash flow. - Forms 27 and 28 in the Missouri Farm Business Record Book are used to record the projected cash flow. Use the budgets from Manual 75 to record expenditures in the appropriate month in which it will occur. Once the projected cash flow is complete, you can analyze the projected year's income to determine problem areas.

Make adjustments where needed. - Adjustments may need to be made if problems are identified in the projected cash flow. You should ask yourself several questions, such as: What if the price goes down? What if production is lower? Can I meet all business and personal obligations with this plan? How could I improve the profitability of my farm this year?

Credits

Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

The Missouri Farm Planning Handbook, (Manual 75). University of Missouri-Columbia: College of Agriculture-Extension Division, Revised, 1986.

Lesson 3: Sample Projected Cash Flow

Situation:

You are the owner/operator of a 500 acre farm. You would like to develop a projected cash flow for the coming year to determine the profitability of the enterprises on your farm. Following are the enterprises and scale of your farming operation:

1. You have 50 head of polled hereford cattle. March and April calves are produced with an 87% calf crop. A 15% replacement rate on cows with a 1% cow loss is expected.
2. 150 acres of the farm are covered with timber.
3. 100 acres of the farm are devoted to mixed grass hay production. Based on past production information, you determine that 3 T/acre of hay can be produced this year. The hay is fed to the cattle, with the remainder stored on the farm. No sales from the mixed hay enterprise are made. Limited pasturing is available on this 100 acres after the crop is removed.
4. 100 acres of the farm are devoted to corn production. You anticipate that the soil will produce 100 bushels/acre.
5. 100 acres of the farm are devoted to pasture. A grass-legume pasture will be produced that will be reseeded yearly. You predict the soil can produce 5 AUM/acre.

Step 1: Identify Enterprise Plans. The first step in completing the projected cash flow is to identify the individual enterprises on the farm and complete the appropriate budget for each. Using the Missouri Farm Planning Handbook (Manual 75), locate the correct table needed for each enterprise. Information is listed for separate production levels. You should use the figures that most closely matches your expected production. Each figure listed in the appropriate column should be transferred to the "MY FARM" column on the right side of the form. You may use the exact figures or adjust them if needed to match your actual situation. To project the monthly cash flow as accurately as possible, you should divide the expenses/acre into the month(s) in which they will most likely occur. Each operation may have different production practices, so not all people will provide each input or conduct sales of production at the same time. The samples listed below are only one method.

Pasture - (Table C-10). Each receipt or expense should be multiplied by 100 since the figures listed are on a per/acre basis and the farm has 100 total acres in pasture production. See Example 3.1.

Corn - (Table C-2). Each receipt or expense should be multiplied by 100 since the figures listed are on a per/acre basis and the farm has 100 total acres in corn production. See Example 3.2.

Mixed Hay - (Table C-9). Each receipt or expense should be multiplied by 100 since the figures listed are on a per/acre basis and the farm has 100 total acres in mixed hay production. See Example 3.3.

Beef Cattle - (Table L-8). Each receipt or expense should be multiplied by 50 since the figures listed are on a per/head basis (figures provided for a cow/calf pair) and the farm has 50 total head of beef cattle. See Example 3.4.

Step 2: Identify other costs and returns. The second step is to determine what other costs and returns will be encountered if the above enterprises are used for the coming year. (This includes estimating repairs, overhead costs, any new investments, or the sale of a capital item.) For our example, we will assume that no other costs will be incurred that are not directly associated with an enterprise.

Step 3: Identify family living estimates. The third step is to estimate what the cost will be to support the family for the year. This is a crucial step if developing a projected cash flow for the entire farm business, rather than projecting cash flow for the enterprises for the farm.

Step 4: Complete a projected cash flow on Form 27. The fourth step is one of the more difficult steps in the process. Receipt and expenses determined in Step 1 must be realistically divided up into the month in which they are likely to occur. In Example 3.5, all information up to line C is entered and totalled to provide the total farm receipts. No entries are made in the money borrowed section (line 31) since we do not know at this time when money will need to be borrowed for operating capital. Lines D and E are not completed since we are projecting cash flow for the farm enterprises and not the non-farm receipts.

All information is entered and totalled up to line H to determine total farm expenditures. Line 64 may be included if there are existing loans on which payments (e.g., mortgage payments) must be made, regardless of the enterprises on the farm. Lines I and J are not completed since we are projecting cash flow of the enterprise only. Line K (cash difference for the month) should be calculated for each month by subtracting total farm expenditures from total farm receipts. See Example 3.5. Notice on line K of the example that the cash difference for every month until September is â negative number. This information will let us know that additional funds must be available to cover expenditures until the first receipts in September. If you had $6,000.00 in the bank at the beginning of the year, you would not have to borrow money until April. You might not have to borrow money until even later if non-farm income could offset even more of the expenditures.

Step 5: Make adjustments as needed. The fifth step allows you to make adjustments that can help to balance cash flow for the farm business. A change in the size of an enterprise might help to balance cash flow. You may discover that enterprises on your farm do not operate well together because of demands on time and capital. Enterprises may be added or eliminated to determine the effect of it on the cash flow of the farm business. Work through the projected cash flow to see how price changes will affect the profitability of the farm business. The options for making adjustments will be unlimited and will vary for each individual situation. You should make the adjustments that will work the best for you and your situation.

Credits

Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: College of University Extension, 1986.

EXAMPLE 3.1

TABLE C-10. PASTURE BUDGETS

Description of Production: Mow one time per year; custom application of fertilizer as needed; annual establishment cost includes reseeding legume.

	GRASS	GRASS-LEGUME	GRASS-NITROGEN	MY FARM
1. Yield, AUM per acre	3 AUM	5 AUM	6 AUM	5 AUM
2. Price per AUM[1]	$ 7.00	$ 7.00	$ 7.00	$ 7.00
3. Gross income per acre	$ 21	$ 35	$ 42	$ 35.00
4. VARIABLE COSTS PER ACRE:				
5. Establishment cost (annual share)	$ 4	$ 9	$ 4	$ 9.00
6. Fertilizer and lime[2]	6	14	36	14.00
7. Crop chemicals and supplies	1	2	2	2.00
8. Custom machine hire	--	--	--	—
9. Machinery: fuel, oil, repairs	2	2	3	2.00
10. Miscellaneous	--	--	--	—
11. Other: _____	--	--	--	—
12. Interest[3]	1	1	2	1.00
13. TOTAL VARIABLE COSTS	$ 14	$ 28	$ 47	$ 28.00
14. INCOME OVER VARIABLE COSTS	$ 7	$ 7	(-$ 5)	$ 7.00
15. Labor hours	1 hr.	1.5 hrs.	1.5 hrs.	1.5 hrs.

[1]Price is the estimated 5-year market rental rate. The inherent value for producing livestock can be substantially higher or lower than this rental price whenever livestock prices change faster than grass rental rates.

[2]Fertilizer costs include average lime costs of $2 (3 AUM), $4 (grass-legume), and $4 (grass-N), along with average annual applications of 0-10-20, 0-25-50, and 100-25-50, respectively, for grass (3 AUM), grass-legume, and grass-N (6 AUM), along with application costs. Expected fertilizer prices: 22c N, 21c P_2O_5, and 10c K_2O.

[3]Interest charge is computed at 11% per year on one-half of Items 5 through 11.

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EXAMPLE 3.2

TABLE C-2. CORN BUDGETS

	IRRIGATED			MY FARM
1. Yield, bu. per acre (13% moisture)	80	100	140	100 bu
2. Price per bushel[1]	$ 2.35	$ 2.35	$ 2.35	$ 2.35
3. Gross income per acre	$188.00	$235.00	$329.00	$235.00
4. VARIABLE COSTS PER ACRE:				
5. Seed	$ 15.00	$ 17.00	$ 20.00	$ 17.00
6. Fertilizer and lime[2]	34.00	44.00	55.00	44.00
7. Crop chemicals and supplies	20.00	20.00	20.00	20.00
8. Custom machine hire	5.00	5.00	5.00	5.00
9. Machinery: fuel, oil, repairs	29.00	31.00	35.00	31.00
10. Hauling and drying @ $.15/bu.	12.00	15.00	21.00	15.00
11. Miscellaneous @ 5%	6.00	6.50	8.00	6.50
12. Other: irrigation fuel, repairs, and maintenance	--	--	32.00	0
13. Interest[3]	6.50	7.50	11.00	7.50
14. TOTAL VARIABLE COSTS[4]	$127.50	$146.00	$207.00	$146.00
15. INCOME OVER VARIABLE COSTS[5]	$ 60.50	$ 89.00	$122.00	$ 89.00
16. Labor hours	3.1 hrs.	3.2 hrs.	4.0 hrs.	3.2 hrs.

[1]Price is expected 3-year average annual price at the farm.

[2]Fertilizer costs are estimated: N (anhydrous) @ 15c, N (dry) @ 22c, P_2O_5 @ 21c, and K_2O @ 10c per pound for typical application rates. Annual share of liming cost is estimated at $4.00 per acre. 80 bu. yield: 110-40-50. 100 bu. yield: 130-60-80. Irrigated corn (140 bu. yield): 180-70-90. Two-thirds of N supplied by anhydrous.

[3]Interest charge is computed at 11% per annum on one-half of Items 5 through 12.

[4]Other costs include: labor and ownership (fixed costs). See Table C-11.

[5]Income to pay land, machinery, facilities, labor, and management.

EXAMPLE 3.3

TABLE C-9. MIXED AND GRASS HAY BUDGETS

Description of Production: Two cuttings; 7' mower; 7' hay conditioner; side delivery rake; square baler; fertilizer custom spread; establishment cost amortized over 5 years.

Field yield at harvest	GRASS + LEGUME 3 T.	GRASS + NITROGEN 5 T.	MY FARM
1. Yield, tons per acre (11% moisture)	2.5	2.5	2.5
2. Price per ton	$ 50	$ 45	$ 50.00
3. Gross income per acre	$125	$113	$125.00
4. VARIABLE COSTS PER ACRE:[1]			
5. Establishment cost	$ 11	$ 6	$ 11.00
6. Fertilizer and lime[2]	18	36	18.00
7. Crop chemicals and supplies	$7 or $2	$7 or $2	7.00
8. Custom machine hire	0 or $87	0 or $87	0
9. Machinery: fuel, oil, repairs	$32 or $3	$30 or $2	32.00
10. Storage	--	--	0
11. Miscellaneous	2	2	2.00
12. Other: _____	--	--	0
13. Interest[3]	$4 or $7	$4 or $7	4.00
14. TOTAL VARIABLE COSTS	$74 or $130	$85 or $142	$ 74.00
15. INCOME OVER VARIABLE COSTS	$51 or (-$5)	$28 or (-$29)	$ 51.00
16. Labor hours	6 or 1 hrs.	6 or 1 hrs.	6 hrs.

[1] Ranges are given in variable costs to approximate differences between harvest by owner with owned equipment (left side) and complete harvest by custom operator (right side). Fixed costs (not included above) are much higher with owner harvested hay.

[2] Fertilizer costs reflect annual lime costs of $4 per year and 0-40-100 and 80-40-100, respectively, for grass-legume and grass-N budgets, priced at 22c, 21c, and 10c for N, P_2O_5, and K_2O.

[3] Interest charge is computed at 11% per year on one-half of Items 5 through 12.

EXAMPLE 3.4

TABLE L-8. BEEF COW BUDGET, SPRING CALVING

Description of Production: March-April calves, 87% calf crop, 400 lb. calves sold in October, 15% replacement rate, and 1% cow loss.

			MY FARM
1. Details of gross receipts:			
Calves sold: .87 calf minus .15 repl. hfr. = .72 calf	.72 x 400 lbs. @ $65	$187	187.00
Cows sold: 14% culled	.14 x 975 lbs. @ $37	51	51.00
2. GROSS RECEIPTS PER COW		$238	238.00
3. Feed:			
Corn equivalent, $2.35/bu.		--	—
Protein, salt, minerals, & additives, $10/cwt.	1.2 cwt.	$ 12	12.00
Corn silage, $18.50/T.		--	—
Mixed hay, $50/T.		--	—
Grass hay, $45/T.	1.1 T.	50	50.00
Pasture, $7/AUM	11.4 AUM	80	80.00
4. TOTAL FEED COSTS		$142	142.00
5. Machinery costs, feed preparation, etc.		$ 8	8.00
6. Veterinary & medicine		5	5.00
7. Other livestock materials & services[1]		13	13.00
8. Util., ins., repair, misc.		5	5.00
9. Operating interest[2]		10	10.00
10. TOTAL OTHER VARIABLE COSTS (add Lines 5 through 9)		$ 41	41.00
11. TOTAL ALL VARIABLE COSTS (Line 4 + Line 10)		$183	183.00
12. INCOME OVER VARIABLE COSTS[3] (Line 2 minus Line 11)		$ 55	55.00
13. Labor hours		5.5 hrs.	5.5 hrs
14. Breeding herd investment		$450	450.00

[1] Includes commission, yardage, and hauling costs as well as bull depreciation.

[2] Half of sum of Lines 4 through 8 times 11% interest. Does not include interest on breeding herd investment.

[3] Other cash costs such as real estate and property taxes, building insurance and repairs, hired labor, and other overhead expenses are to be accounted for on Form 6, FM 7536.

EXAMPLE 3.5

19___ **FARM BUSINESS CASH FLOW** Plan ✓ or Summary ___ **FORM 27**

		JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL	
	RECEIPTS														
1.	Crop Sales Corn									23,500				23,500	1.
2.														0	2.
3.														0	3.
4.														0	4.
5.														0	5.
6.														0	6.
7.	Crop Insurance Proceeds													0	7.
8.	Government Payments: Cash													0	8.
9.	Government Payments: Other													0	9.
10.	CCC Loans													0	10.
11.	Custom Work													0	11.
12.	Patronage Dividends													0	12.
13.	Resales and Settlements													0	13.
14.	Cash Rent													0	14.
15.	Non-Breeding Livestock Feeder Calves										9,350			9,350	15.
16.														0	16.
17.														0	17.
18.	Livestock Products													0	18.
19.														0	19.
20.														0	20.
21.	Other Farm Receipts													0	21.
22.														0	22.
23.														0	23.
24.														0	24.
25.														0	25.
26.														0	26.
A.	TOTAL OPERATING SALES (lines 1 thru 26)	0	0	0	0	0	0	0	0	23,500	9,350	0	0	32,850	A.
27.	Breeding Livestock Culled Cows											2,550		2,550	27.
28.														0	28.
29.														0	29.
30.	Equipment, Building, and Land Sales													0	30.
B.	TOTAL CAPITAL SALES (lines 27 thru 30)	0	0	0	0	0	0	0	0	0	0	2,550	0	2,550	B.
C.	TOTAL FARM RECEIPTS (lines A + B)	0	0	0	0	0	0	0	0	23,500	9,350	2,550	0	95,400	C.
31.	Money Borrowed - Farm														31.
D.	NON-FARM RECEIPTS (Form 28, line A)														D.
E.	TOTAL DOLLARS AVAILABLE (lines C + 31 + D)														E.

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	EXPENDITURES	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL	
32.	Breeding Fees													0	32.
33.	Chemicals			700			2,000		200					2,900	33.
34.	Conservation													0	34.
35.	Feed Protein, Salt, Mineral	45	45	50	50	50	55	60	65	65	45	40	30	600	35.
36.														0	36.
37.														0	37.
38.														0	38.
39.	Fertilizer and Lime			3,200	2,000	1,600	800							7,600	39.
40.	Freight and Trucking									1,500	100	50		1,650	40.
41.	Gasoline, Fuel, and Oil			800	1,500	200			100	1,800				4,400	41.
42.	Insurance													0	42.
43.	Interest: Mortgage													0	43.
44.	Interest: Other												1,750	1,750	44.
45.	Labor Hired													0	45.
46.	Machine Hire		100			100			100	500		100		900	46.
47.	Cash Rent													0	47.
48.	Repairs: Machine				400	700			100	900				2,100	48.
49.	Repairs: Building and Fences														49.
50.	Seeds and Plants				1,700				2,000					3,700	50.
51.	Storage													0	51.
52.	Supplies				250				250					500	52.
53.	Taxes													0	53.
54.	Utilities - Farm Share						75		75					150	54.
55.	Veterinarian and Medicine		50	75	50		50	75	50		50			400	55.
56.	Miscellaneous Farm Expenditures				200	200	250	100		200				950	56.
57.														0	57.
58.	Non-Breeding Livestock													0	58.
59.														0	59.
F.	TOTAL OPERATING EXPENDITURES (lines 32 thru 59)	45	195	4,825	6,150	2,850	3,230	235	2,940	4,965	195	190	1,780	27,600	F.
60	Breeding Livestock														60
61															61
62	Machinery, Equipment, and Fence														62
63	Land and Buildings														63
G.	TOTAL CAPITAL EXPENDITURES (lines 60 thru 63)	0	0	0	0	0	0	0	0	0	0	0	0	0	G.
H.	TOTAL FARM EXPENDITURES (lines F + G)	45	195	4,825	6,150	2,850	3,230	235	2,940	4,965	195	190	1,780	27,600	H.
64	Principal Paid on Borrowed Funds														64
I.	NON-FARM EXPENDITURES (Form 28, line B)														I.
J.	TOTAL DOLLARS USED (lines H + 64 + I)														J.
K.	CASH DIFFERENCE FOR MONTH (lines E - J)	-45	-195	-4825	-6,150	-2,850	-3,230	-235	-2,940	18,535	9,155	2,360	-1,780	7,800	K.
L.	CASH BAL. END OF MONTH (last month line L + K)														L.
M.	CREDIT BAL. (last month lines M + 31 - 64)														M.

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 4: Recording Receipts and Expenditures

Objective: The student will be able to record receipts and expenditures in the Missouri Farm Business Record Book.

Study Questions

1. How are farm receipts recorded in the Missouri Farm Business Record Book?
2. How are farm expenditures recorded in the Missouri Farm Business Record Book?
3. How are enterprise allocations made?
4. How are non-farm receipts and expenditures recorded?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Developing Programs of Supervised Agricultural Experience (Unit IV Handouts). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [For adult instruction only]
3. Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
4. Sample Entries for the Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
5. Sample Entries for the Missouri Farm Business Record Book (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]
6. Transparency Masters

   a) TM 4.1: Recording Receipts (Forms 1, 2, and 3)
   b) TM 4.2: Recording Receipts cont. (Forms 4, 5, and 6)
   c) TM 4.3: Recording Expenditures (Forms 7, 8, and 9)
   d) TM 4.4: Recording Expenditures cont. (Forms 10, 11, and 12)
   e) TM 4.5: Totalling Receipts (Form 1)
   f) TM 4.6: Totalling Expenditures (Form 7)
   g) TM 4.7: Non-Farm and Personal Cash Flow (Form 28)

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 4: Recording Receipts and Expenditures

TEACHING PROCEDURES

A. Review

Review the previous lesson.

B. Motivation

Have a shoe box full of invoices and cancelled checks on the desk. Also have a completed record book as an example. Ask the class which they would rather have when sitting down to figure income tax or analyze the farm business.

C. Assignment

D. Supervised study

E. Discussion

1. Receipts are one of the foundations of a complete record keeping system. Accuracy in recording receipts is necessary if the record book is to provide an accurate financial picture of business. Provide examples from the sample entries of the different types of receipts to illustrate the proper use of the receipts pages. Use TM 4.1 and 4.2 to show examples of how to record receipts from the sample entries. When the example is complete, the form can be erased and the next example can be completed. Use TM 4.5 to illustrate how to total the receipts for the month. Use TM 3.5 (Unit IV, Lesson 3) to show how monthly totals for farm receipts are transferred to the cash flow summary. Have students complete forms using information from the sample entries or their SAE program.

How are farm receipts recorded in the Missouri Farm Business Record Book?

a) Farm receipts
   1) Some column headings are blank to allow for individualized records.
   2) The month and page number should be recorded at the top of each page.
   3) The date, total receipt, and description should be recorded on Form 1 for each receipt.
   4) Each receipt and quantity should be distributed under the proper headings in columns 1 through 31.
   5) Form 5 is used to allocate receipts to enterprises within the farm business. (Enterprise allocations will be discussed later in this lesson.)
b) Receipts should be totalled at the end of each month.
c) Subtotal the page if necessary and carry the subtotals over to the next page if more than one page is needed.
d) To check for accuracy, the "Total receipts" column should be equal to the total sum of columns 1 through 31 plus columns P1 through P12.
e) Transfer the column totals to the cash flow summary (Form 27). Make sure the column headings on receipt forms match the line headings on the cash flow.

2. Expenditures, like receipts, are also foundations of the record keeping system. Accuracy in recording expenditures is necessary to provide the desired farm business analysis. Give examples from the sample entries that illustrate how to record expenditures. Use TM 4.3 and 4.4 to illustrate the correct method for recording expenditures. Use TM 4.6 to illustrate how to total the expenditure page at the end of month. Use TM 3.6 (Unit IV, Lesson 3) to illustrate how the monthly totals for farm expenditures are transferred to the cash flow summary. Have students complete expenditure forms using information from the sample entries or their SAE program.

How are farm expenditures recorded in the Missouri Farm Business Record Book?

a) Farm expenditures
   1) Some column headings are blank to allow for individualized records.
   2) The month and page number should be recorded at the top of each form.
   3) The date, total cost, description, and check number should be recorded on Form 7 for each expenditure.
   4) Each expenditure and quantity should be distributed under the proper heading in columns 32 through 64.

b) Expenditures should be totalled at the end of each month.

c) If more than one page is needed, subtotal the expenditures for the month and carry the subtotals over to the next page.

d) To check for accuracy, the "Total cost" column should be equal to the total of the sums of columns 32 through 64 plus columns P13 through P29.

e) Transfer totals to the cash flow summary (Form 27). Match column headings on the expenditure forms to line headings on the cash flow.

3. Give examples from the sample entries to illustrate how enterprises may be separated for the farm business. Show how the receipts and expenditures are broken down and recorded to the appropriate enterprise. Use TM 4.1, 4.2, 4.3, and 4.4 to provide examples of the correct method for allocating enterprise receipts and expenditures. Have students complete forms using information from the sample entries and their SAE program.

How are enterprise allocations made?

a) Receipts - Form 5 is used to allocate farm receipts to the appropriate enterprise.
   1) Enterprises should be established based on the analysis needs of the farm business.
   2) The totals from Form 5 are not transferred to the cash flow summary since they have already been transferred to the cash flow summary from the entry in columns 1 through 31.
   3) The totals should be transferred to the appropriate enterprise analysis form(s). (Forms 30 through 37 will be discussed in Unit IV, Lesson 5.)

b) Expenditures - Form 11 is used to allocate expenditures to the appropriate enterprise.
   1) For analysis purposes, the same enterprises should be used for the expenditure allocations as were used to allocate receipts.
   2) Totals for Form 11 should not be transferred to the cash flow summary, since they have already been transferred to the cash flow summary from the entry in columns 32 through 64.
   3) The totals should be transferred to the appropriate enterprise analysis form(s) (Forms 30 through 37).

4. Non-farm receipts and expenditures are recorded on Forms 1, 6, 7, and 12. Illustrate several examples from the sample entries with the class to show the proper method for recording non-farm receipts and expenditures. Use TM 4.1, 4.2, 4.3, and 4.4 to illustrate correct recording methods. Use TM 4.7 to show how monthly totals for non-farm and personal receipts and expenditures are transferred to the non-farm and personal cash flow summary. Have students record non-farm receipts and expenditures.

   How are non-farm receipts and expenditures recorded?

   a) Non-farm receipts
      1) Date, total receipt, description, and quantity is recorded for each receipt on Form 1.
      2) The receipt should also be recorded in the appropriate column (P1 through P12) on Form 6.
      3) Other non-farm income is divided into non-taxable income and other non-farm income. Still other non-farm income has blank column headings so that it can be individualized.
      4) Totals should be transferred to Form 28.
   b) Non-farm expenditures - go through each column and give a brief description of how each should be used.
      1) Date, total cost, description, and check number is recorded for each expenditure on Form 7 with the farm expenditures.
      2) The expenditure should also be recorded in the appropriate column (P13 through P29) on Form 12.
      3) The column headings under "non-farm utilities" and "other non-farm expenditures" have been left blank to allow the columns to be individualized according to your needs.
      4) Totals should be transferred to Form 28.

F. Other activity

Display a completed Missouri Farm Business Record Book for an example for the class to examine.

G. Conclusion

Receipts and expenditures are the foundations of the record keeping system. Accuracy should be maintained when recording and transferring figures to ensure an accurate analysis of the farm business.

H. Competency

Record receipts and expenditures in the Missouri Farm Business Record Book.

I. Answers to Evaluation

1. c
2. c
3. b
4. So that the record book can be individualized based on the type of receipts and expenditures for the farm business

 Name _____

Lesson 4: Recording Receipts and Expenditures Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. How often should receipts and expenditures be totalled?

   a. Daily
   b. Weekly
   c. Monthly
   d. Every six months
   e. Quarterly

2. Total receipts and expenditures for the month should be transferred to the _____?

   a. Financial statement
   b. Profit or loss statement
   c. Cash flow summary
   d. Inventory
   e. Depreciation schedule

3. The totals from the enterprise allocation columns in the receipts and expenditures forms should be transferred to the _____?

   a. Depreciation forms
   b. Enterprise analysis forms
   c. Inventory forms
   d. Financial statement forms
   e. Profit or loss forms

Complete the following short answer question.

4. Why are some of the column headings blank for the receipts and expenditures?

FORM 1 _____ (month) **Page ___ of ___** **19___ FARM RECEIPTS**

	DATE	TOTAL RECEIPTS $	TOTAL RECEIPTS ¢	DESCRIPTION (who, what, etc.)	CROP SALES Quantity							CROP INSURANCE PROCEEDS	GOVERNMENT PAYMENTS Cash	GOVERNMENT PAYMENTS Other	CCC LOANS	CUSTOM WORK	
				Subtotal brought forward from preceding page													
1.																	1.
2.																	2.
24.																	
				Subtotals to next page or totals to Summary page													
					1	2	3	4	5	6		7	8	9	10	11	

19___ FARM RECEIPTS Cont. **Page ___ of ___** _____ (month) **FORM 2**

	PATRONAGE DIVIDENDS	RESALES AND SETTLEMENTS	CASH RENT	NON-BREEDING LIVESTOCK Head rsd.	Head bot.	Lbs.	$ Amount	Head bot.	Head rsd.	Lbs.	$ Amount	Head bot.	Head rsd.	Lbs.	$ Amount
1.															
24.															
	12	13	14				15				16				17

FORM 3 _____ (month) **Page ___ of ___** **19___ FARM RECEIPTS Cont.**

LIVESTOCK PRODUCTS Quantity				OTHER FARM RECEIPTS						
										1.
										2.
										24.
	18	19	20	21	22	23	24	25	26	

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TM 4.1

19___ FARM RECEIPTS Cont. Page ___ of ___ _____ (month) FORM 4

	BREEDING LIVESTOCK										EQUIP., BLDG., & LAND SALES	MONEY BORROWED FARM
	Head for Capital Gains											
	Qualify		Not Qualify									
	Bought	Raised	Bought	Raised	Lbs.	$ Amount	Lbs.	$ Amount	Lbs.	$ Amount		
1.												
2.												
24.												
						27		28		29	30	31

FORM 5 _____ (month) Page ___ of ___ 19___ DISTRIBUTION OF ENTERPRISE RECEIPTS

Item Description Quantity, Etc.	$ Amount	Item Description Quantity, Etc.	$ Amount	Item Description Quantity, Etc.	$ Amount	Item Description Quantity, Etc.	$ Amount	Item Description Quantity, Etc.	$ Amount	
										1.
										2.
										24.

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19___ NON-FARM AND PERSONAL RECEIPTS Page ___ of ___ _____ (month) FORM 6

	WAGES RECEIVED	DIVIDENDS AND INTEREST RECEIVED	RENTS AND ROYALTIES	OTHER TAXABLE INCOME	GIFTS	REIMBURSEMENT		MONEY BORROWED NON-FARM	OTHER NON-TAXABLE INCOME	OTHER NON-FARM INCOME			
						Medical	Other						
1.													1.
2.													2.
2s.													
24.													24.
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	

FORM 7 _____ (month) Page ___ of ___ 19___ FARM EXPENDITURES

	DATE	TOTAL COST $	TOTAL COST ¢	DESCRIPTION (who, what, etc.)	CHECK NO.	BREEDING FEES	CHEMICALS	CONSER-VATION	FEED Lbs.	FEED $ Amount	FEED Lbs.	FEED $ Amount	FEED Lbs.	FEED $ Amount	FEED Lbs.	FEED $ Amount	
1.																	1.
2.																	2.
24.																	24.
				Subtotals to next page or totals to Summary page													
						32	33	34		35		36		37		38	

19___ FARM EXPENDITURES Cont. Page ___ of ___ _____ (month) FORM 8

	FERTILIZER AND LIME	FREIGHT AND TRUCKING	GASOLINE, FUEL, AND OIL	INSURANCE	INTEREST Mortgage	INTEREST Other	LABOR HIRED	MACHINE HIRE	CASH RENT	
1.										
2.										
	39	40	41	42	43	44	45	46	47	

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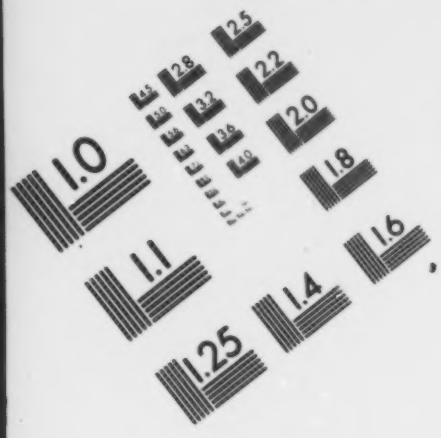
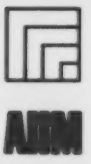
FORM 9 _____ (month) Page ___ of ___ 19___ FARM EXPENDITURES Cont.

REPAIRS Machine	REPAIRS Buildings and Fences	SEEDS AND PLANTS	STORAGE	SUPPLIES	TAXES	UTILITIES FARM SHARE	VETERINARY AND MEDICINE	MISCELLANEOUS FARM EXPENDITURES		
										1.
										2
										24.
48	49	50	51	52	53	54	55	56	57	

TM 4.3





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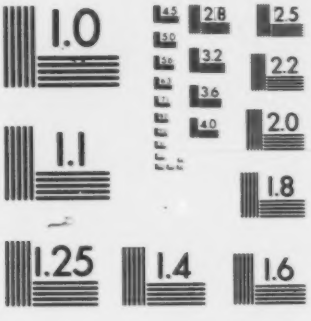

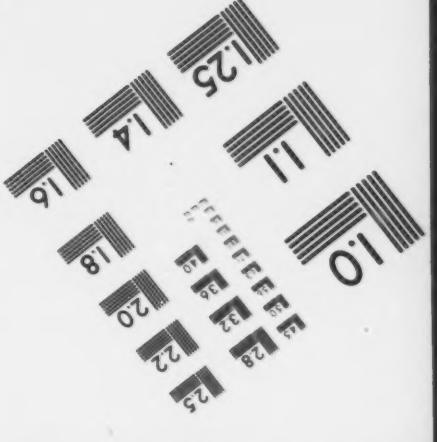

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19___ FARM EXPENDITURES Cont. Page ___ of ___ _____ (month) FORM 10

	NEW FARM INVESTMENTS										PRINCIPAL PAID ON BORROWED FUNDS
	Non-Breeding Livestock				Breeding Livestock				Machinery, Equipment, & Fence	Land & Buildings	
	Head	Lbs.			Head	Lbs.					
1.											
23.											
24.											
			58	59			60	61	62	63	64

FORM 11 _____ (month) Page ___ of ___ 19___ DISTRIBUTION OF ENTERPRISE EXPENDITURES

Item Description Quantity, Etc.	$ Amount	Item Description Quantity, Etc.	$ Amount	Item Description Quantity, Etc.	$ Amount	Item Description Quantity, Etc.	$ Amount	Item Description Quantity, Etc.	$ Amount	
										1.
										2.
										24.

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19___ NON-FARM AND PERSONAL EXPENDITURES Page ___ of ___ _____ (month) FORM 12

	ELIGIBLE CHILD CARE	ITEMIZED DEDUCTIONS							CLOTHING	FOOD & HOUSE-HOLD	AMOR-TIZED PAYMENTS	PERSONAL CAR & TRAVEL	NON-FARM UTILITIES		NON-FARM PRINCIPAL PAYMENTS	OTHER NON-FARM EXPENDITURES			
		Casualty & Theft Loss	Contributions	INTEREST		Taxes	Medical	Med. Miles											
				Mortgage	Other														
1.																			1.
2.																			2.
24.																			24.
	P13	P14	P15	P16	P17	P18	P19		P20	P21	P22	P23	P24	P25	P26	P27	P28	P29	

TM 4.4

FORM 1 _____ (month) **Page** ___ **of** ___ **19**___ **FARM RECEIPTS**

	DATE	TOTAL RECEIPTS $	TOTAL RECEIPTS ¢	DESCRIPTION (who, what, etc.)	CROP SALES Quantity							CROP INSURANCE PROCEEDS	GOVERNMENT PAYMENTS Cash	GOVERNMENT PAYMENTS Other	CCC LOANS	CUSTOM WORK	
				Subtotal brought forward from preceding page													
1.																	1.
2.																	2.
3.																	3.
4.																	4.
5.																	5.
6.																	6.
7.																	7.
8.																	8.
9.																	9.
10.																	10.
11.																	11.
12.																	12.
13.																	13.
14.																	14.
15.																	15.
16.																	16.
17.																	17.
18.																	18.
19.																	19.
20.																	20.
21.																	21.
22.																	22.
23.																	23.
24.																	24.
				Subtotals to next page or totals to Summary page													
						1	2	3	4	5	6	7	8	9	10	11	

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TM 4.5

FORM 7 _____ (month) Page ___ of ___ 19___ FARM EXPENDITURES

	DATE	TOTAL COST $	TOTAL COST ¢	DESCRIPTION (who, what, etc.)	CHECK NO.	BREEDING FEES	CHEMICALS	CONSER-VATION	FEED Lbs.	FEED $ Amount	FEED Lbs.	FEED $ Amount	FEED Lbs.	FEED $ Amount	FEED Lbs.	FEED $ Amount	
				Subtotals brought forward from preceeding page													
1.																	1.
2.																	2.
3.																	3.
4.																	4.
5.																	5.
6.																	6.
7.																	7.
8.																	8.
9.																	9.
10.																	10.
11.																	11.
12.																	12.
13.																	13.
14.																	14.
15.																	15.
16.																	16.
17.																	17.
18.																	18.
19.																	19.
20.																	20.
21.																	21.
22.																	22.
23.																	23.
24.																	24.
				Subtotals to next page or totals to Summary page													
						32	33	34		35		36		37		38	

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TM 4.6

FORM 28 **19___ NON-FARM AND PERSONAL CASH FLOW**

		JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	TOTAL	
P1.	Wages Received														P1.
P2.	Dividends and Interest Received														P2.
P3.	Rents and Royalties														P3.
P4.	Other Taxable Income														P4.
P5.	Gifts														P5.
P6.	Reimbursement: Medical														P6.
P7.	Reimbursement: Other														P7.
P8.	Money Borrowed - Non-Farm														P8.
P9.	Other Non-Taxable Income														P9.
P10.	Other Non-Farm Income														P10.
P11.															P11.
P12.															P12.
A.	TOTAL NON-FARM AND PERSONAL RECEIPTS (lines 1 thru 12)														A.
P13.	Eligible Child Care														P13.
P14.	Casualty and Theft Loss														P14.
P15.	Contributions														P15.
P16.	Interest: Mortgage														P16.
P17.	Interest: Other														P17.
P18.	Taxes														P18.
P19.	Medical														P19.
P20.	Clothing														P20.
P21.	Food and Household														P21.
P22.	Amortized Payments														P22.
P23.	Personal Car and Travel														P23.
P24.	Non-Farm Utilities														P24.
P25.															P25.
P26.	Non-Farm Principal Payments														P26.
P27.	Other Non-Farm Expenditures														P27.
P28.															P28.
P29.															P29.
B.	TOTAL NON-FARM EXPENDITURES (lines 13 thru 29)														B.
C.	CASH DIFFERENCE (line A - line B)														C.

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TM 4.7

Lesson 4: Recording Receipts and Expenditures

Receipts and expenditures are the foundations of a complete record keeping system. Accuracy in recording receipts and expenditures is necessary if a proper analysis is to be made of the farm business.

Recording Farm Receipts

Some of the column headings have been left blank so that each person can individualize the record book to their particular operation. The month and page number should be recorded at the top of each page. The date, total receipts, and description columns on Form 1 should be filled out for each receipt. Each receipt and quantity should be distributed again under the proper heading in columns 1 through 31. Form 5 is used to allocate receipts to enterprises within the farm business.

Receipts should be totalled at the end of each month. If more than one page is required for a month, the page should be subtotalled at the bottom and the subtotals carried forward to the next page.

To check for accuracy, the sum of the "Total receipts" column should be equal to the total sum of columns 1 through 31 plus columns P1 through P12. After accuracy has been checked, the total for each column should be transferred to Form 27 (Cash Flow Summary). As column headings are established on Forms 1 though 6, they should also be written in as line headings on Form 27. Form 27 is set up to match exactly with the receipts section. This will reduce the chance for error in transferring numbers.

Recording Farm Expenditures

Some column headings have been left blank so that each person can individualize the record book to their particular operation. The month and page number should be recorded at the top of each page. The date, total cost, description, and check number columns on Form 7 should be filled out for each expenditure. Each expenditure and quantity should be distributed again under the proper heading in columns 32 through 64.

Expenditures should be totalled at the end of each month. If more than one page of expenditures is required for the month, the page should be subtotalled at the bottom and the subtotals carried forward to the next page. To check for accuracy, the sum of the "Total cost" column should be equal to the total of the sums of columns 32 through 64 plus columns P13 through P29. After accuracy has been checked, the total for each column should be transferred to Form 27 (Cash Flow Summary). As column headings are established on Forms 7 though 12, they should also be written in as line headings on Form 27. Form 27 is set up to match exactly with the expenditures section. This will reduce the chance for error in transferring numbers.

Enterprise Allocations

Form 5 is used to allocate farm receipts to the appropriate enterprise. Enterprises should be established based on the needs discovered in the analysis of the farm business. For example, enterprises on the farm may be divided by species of livestock or type of crop raised (swine, beef, soybeans, wheat, etc.). You may also divide enterprises within the species or crop (market hogs, feeder pigs, soybean variety, etc.). The totals from Form 5 are not transferred to the cash flow summary since they are already recorded in columns 1 through 31 and only transferred

to Form 5. The totals should be transferred to the appropriate enterprise analysis form(s) (Forms 30 through 37).

Form 11 is used to allocate expenditures to enterprises within the farm business. For analysis purposes, the same enterprises should be used for the expenditure allocations as for the receipt allocation. Totals for Form 11 should not be transferred to the cash flow summary, since they have already been transferred to the cash flow summary from the entry in columns 32 through 64. They should be transferred to the appropriate enterprise analysis form(s) (Forms 30 through 37).

Recording Non-Farm Receipts and Expenditures

Non-farm receipts - The date, total receipt, and description columns are completed on Form 1 for each receipt. The receipts should also be recorded in the appropriate column (P1 through P2) on Form 6. "Other non-farm income" is divided into "non-taxable income" and "other non-farm income". "Other non-farm income" has blank column headings so that it can be individualized. Totals should be transferred to Form 28 (Non-farm and Personal Cash Flow).

Non-farm expenditures - The date, total cost, description, and check number are recorded for each expenditure on Form 7. The expenditures should also be recorded in the appropriate column (P13 through P29) on Form 12. Other non-farm expenditures are divided into three blank column headings so that they can be individualized according to your needs. Totals should be transferred to Form 28.

Summary

Accurate receipts and expenditures are necessary for an accurate analysis of the farm business. A consistent method of recording receipts and expenditures should be developed. Enterprise allocations should be made to enable you to analyze the various enterprises in the farm business and to provide a basis for making management decisions.

Credits

Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

Sample Entries for the Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.

Sample Entries for the Missouri Farm Business Record Book (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 5: Completing Additional Records

Objective: The student will be able to complete additional forms in the Missouri Farm Business Record Book.

Study Questions

1. **How are records kept on hired labor and independent contractors?**
2. **How are liabilities for the farm business recorded?**
3. **How are enterprise analysis forms completed?**

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Developing Programs of Supervised Agricultural Experience (Unit IV Handouts). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [For adult instruction only]
3. Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
4. Sample Entries for the Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
5. Sample Entries for the Missouri Farm Business Record Book (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]
6. Transparency Masters

   a) TM 5.1: Hired Labor (Form 21)
   b) TM 5.2: Independent Contractors (Form 22)
   c) TM 5.3: Intermediate and Long-Term Multipayment Note and Mortgage Record (Form 23)
   d) TM 5.4: Credit Lines and Short-Term Notes (Form 24)
   e) TM 5.5: Livestock Enterprise Data (Form 30)
   f) TM 5.6: Annual Enterprise Expense Allocation (Form 31)
   g) TM 5.7: Field Record (Form 32)
   h) TM 5.8: Field Record cont. (Form 33)
   i) TM 5.9: Livestock Purchased for Resale (Form 34)
   j) TM 5.10: Livestock Purchased for Resale cont. (Form 35)
   k) TM 5.11: Monthly Livestock Inventory Record (Form 36)
   l) TM 5.12: Monthly Feed and Grain Inventory Record (Form 37)

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 5: Completing Additional Records

TEACHING PROCEDURES

A. Review

Review the previous lesson.

B. Motivation

If you were asked to determine how many pounds of beef or how many bushels of soybeans you produced last year, how long would it take to calculate the correct amount? Could you even determine this with your current record keeping system?

C. Assignment

D. Supervised study

E. Discussion

1. Ask the class to list reasons for keeping track of the amount of hired labor and work done by independent contractors. List the reasons on the board. Use TM 5.1 and write in examples from the sample entries to provide an illustration of how to record information for hired labor. Use TM 5.2 to demonstrate recording information for independent contractors. Have students complete a sample form.

   How are records kept on hired labor and independent contractors?

   a) Hired Labor Record (Form 21)
      1) A separate section should be used for each employee hired in the farm business.
      2) The employee's name, address, and social security number should be recorded.
      3) Each time the employee works for you, the date, hours worked, gross wages paid, deduction information, and net amount paid should be recorded. The amount in the "net paid" column should be equal to the amount entered on Form 8, column 45.
      4) Refer to the current Farmer's Tax Guide for guidelines for determining when social security and income tax should be paid on an employee.

   b) Independent Contractors (Form 22)
      1) A separate section should be used for each individual or firm for which a service was contracted.
      2) The contractor's name, address, and social security number should be recorded.
      3) Each time the person or firm is paid for a service, it should be recorded on the form after it is entered in the expenditures section. The amount in the "net paid" column should be equal to the amount recorded in column 46 on Form 8 for that transaction.

2. Knowing how much money is owed in the farm business is important for analysis at the end of the year. Recording payments on a separate form makes it easier to

determine the amount of liability in the farm business. Use TM 5.3 and write in sample entries to provide an illustration of the correct procedure for recording intermediate and long-term loan information. Use TM 5.4 to illustrate the correct procedure for recording credit line and short-term note information.

How are liabilities for the farm business recorded?

a) Intermediate and Long-term Multipayment Note and Mortgage Record (Form 23)
   1) The form is divided into three separate sections so that three long-term or intermediate liabilities may be recorded.
   2) The following information should be recorded for each individual loan: creditor's name, purpose of the loan, amount, and terms.
   3) Each time a payment is made, the information should be recorded on Form 23. The date, total payment, amount of interest and principal paid, and the remaining unpaid principal balance should be calculated.
   4) The total payment made should be equal to the amount entered in the "total cost" column of Form 7 for that transaction.
   5) The amount of interest paid should be equal to the figure entered on Form 8, column 43 or 44.
   6) The amount of principal paid is equal to the figure entered on Form 10, column 64.
   7) The unpaid principal balance is equal to the amount of the loan until the first payment is made. When a payment is made, the amount of principal (not the amount of interest) is subtracted from the previous unpaid principal balance.

b) Credit Lines and Short-term Notes (Form 24) - Form 24 is used to record both farm and non-farm liabilities that are to be repaid in one year or less.
   1) The form is divided so that three separate liabilities may be recorded on the same form.
   2) The creditor's name, purpose of the loan, and the terms of repayment should be recorded at the heading of the section.
   3) The date the liability occurs and the total amount borrowed should be recorded on line 1.
   4) When a payment is made, the total amount paid should be recorded. This amount should match the figure in the "total cost" column of Form 7 for the transaction.
   5) The amount of interest paid should match Form 8, column 43 or 44.
   6) The amount of principal paid should match Form 10, column 64.
   7) The unpaid principal balance is determined by subtracting the amount of principal paid (not the total payment) from the previous unpaid principal balance.

3. Ask the class why it is important to analyze the enterprises included in the farm business. How can this analysis be accomplished in the Missouri Farm Business Record Book? Use TM 5.5 through 5.12 and write examples from the sample entries to provide an illustration of the proper method for recording information on enterprise forms. Have students complete forms for their SAE program.

How are enterprise analysis forms completed?

a) Livestock Enterprise Data (Form 30)
   1) Each livestock enterprise in the farm business should be recorded on a separate form. The year and enterprise being analyzed should be recorded at the top of the page.

2) An entry should be made monthly for the value and amount of feed, grain, and roughage fed to that specific enterprise.

3) A monthly count of the number of head for the enterprise can be maintained on the bottom portion of the form. Averages are used for recording the number of head so that sales and purchases made during the month will not result in an inaccurate analysis for the month.

b) Annual Enterprise Expense Allocation (Form 31)

1) This form is designed to be used one of two ways, depending on your preference.

(a) If you record each enterprise on a separate form, you may record monthly expenses for the enterprise by writing each month in the column headings.

(b) If you decide to compare all enterprises on the same form, you should write the names of the enterprises in the column headings, rather than the month. If you compare all enterprises, only a yearly analysis may be conducted from this form.

2) The total amount spent on each item listed should be recorded in the total column and allocated to each enterprise like they were on Form 11.

3) The form should be totalled and checked for accuracy similar to the cash flow summary (Form 27).

c) Field Record (Forms 32 and 33)

1) This information is vital for planning your cropping rotation system and identifying problem areas in your cropping system.

2) The field number, description, number of acres, and type of crop should be recorded for each field.

3) The appropriate production information, such as tillage time and type, seed information, fertilizer, lime, herbicide, and insecticide application, harvest data, and notes about special conditions that might have an effect on production, should be recorded.

d) Livestock Purchased for Resale (Forms 34 and 35)

1) Livestock purchased with the intent to sell it again, rather than to add to the breeding herd, is recorded on this form (e.g., feeder calves, feeder pigs).

2) Farmers using the cash basis accounting method will need to keep this form up-to-date in order to deduct these purchases.

3) The enterprise in which the largest amount of purchases for resale will occur should be recorded on Form 34 since more lines are available than on Form 35.

e) Monthly Livestock Inventory Record (Form 36)

1) The form is separated into two identical sections, with each enterprise being recorded separately in a section. Additional forms may be added if necessary.

2) A beginning inventory of the number of head, pounds, and value of livestock is recorded. This beginning inventory should match the beginning inventory for the enterprise (breeding and non-breeding) on Form 17.

3) When livestock for that enterprise is purchased, weaned, sold, dies, or consumed, it should be recorded on this form.

4) To determine the ending inventory for the month, the following formula should be used:

Ending Inventory = beginning inventory + no. purchased + no. weaned - no. sold - no. of deaths - no. consumed +/- adjustments. Adjustments in the livestock inventory are for animals that are lost, strayed, or stolen and are expressed only in amount, not value.

f) Monthly Feed and Grain Inventory Record (Form 37)

1) This form allows you to keep a monthly inventory of all feed and grain produced and purchased in the farm business.
2) The form is separated into two identical sections. Each type of feed or grain should be recorded separately.
3) This form is completed similarly to Form 36, except that there is a space for comments. Adjustments in feed and grain are for shrinkage and unaccountable inventory, and is expressed in amount, not in value.

F. Other activities

G. Conclusion

The additional forms included in the Missouri Farm Business Record Book will help you to keep more detailed records to analyze the enterprises in the farm business.

H. Competency

Complete additional records in the Missouri Farm Business Record Book.

I. Answers to Evaluation

1. b
2. d
3. c
4. d
5. b
6. d
7. e
8. b
9. a
10. f
11. c

 Name _____

Lesson 5: Completing Additional Records Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. On what form do you record expenditures for work in which you hire someone to use your equipment?

   a. Independent contractor
   b. Hired labor record
   c. Depreciation schedule
   d. Short-term loan
   e. Receipt

2. Which form is used to record expenditures for services provided by a person or firm at a set fee in which equipment is provided by the person or firm?

   a. Hired labor
   b. Receipts
   c. Inventory
   d. Independent contractor
   e. Depreciation

3. What kind of loans generally have a repayment period of one to ten years?

   a. Long-term
   b. Short-term
   c. Intermediate-term
   d. Variable-term
   e. Alternating-term

4. How often should loan repayment information be recorded?

   a. Yearly
   b. Weekly
   c. Daily
   d. When a payment is made
   e. Monthly

5. What kind of notes have repayment periods of one year or less?

   a. Long-term
   b. Short-term
   c. Alternating-term
   d. Variable-term
   e. Intermediate-term

Match the following forms with the type of information recorded on each.

____6.	Field Record	a.	Monthly expenditures for each enterprise
____7.	Monthly Feed & Grain Inventory	b.	Non-breeding livestock purchased during the year
____8.	Livestock Purchased for Resale	c.	Amount of feed used; average inventory for the month
____9.	Annual Enterprise Expense Allocation	d.	Information of crop practices and rotation planning
____10.	Monthly Livestock Inventory	e.	Amount of feed raised, purchased, sold, consumed, etc., for each month
____11.	Livestock Enterprise Data	f.	Number of livestock each month, including all purchases, deaths, consumption, etc.

FORM 21

19___ HIRED LABOR RECORD

	Employee's Name: / Address:								Social Security No.	Employee's Name: / Address:								Social Security No.	Employee's Name: / Address:								Social Security No.	
	Date	Time Worked (hrs.)	Gross Wages	Deductions - reference only: Federal W.H.	State W.H.	F.I.C.A.	Other	Net Paid		Date	Time Worked (hrs.)	Gross Wages	Deductions - reference only: Federal W.H.	State W.H.	F.I.C.A.	Other	Net Paid		Date	Time Worked (hrs.)	Gross Wages	Deductions - reference only: Federal W.H.	State W.H.	F.I.C.A.	Other	Net Paid	
1.																											1.
2.																											2.
3.																											3.
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27.																											27.

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TM 5.1

19___ **INDEPENDENT CONTRACTORS** **FORM 22**

	Contractor's Name: / Address:			Social Security No.	Contractor's Name: / Address:			Social Security No.	Contractor's Name: / Address:			Social Security No.	
	Date	Acres or Hours	Description of Work Done	Net Paid	Date	Acres or Hours	Description of Work Done	Net Paid	Date	Acres or Hours	Description of Work Done	Net Paid	
1.													1.
2.													2.
3.													3.
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26.													26.
27.													27.

FORM 23

INTERMEDIATE AND LONG-TERM MULTIPAYMENT NOTE AND MORTGAGE RECORD

	CREDITOR: _____ PURPOSE: _____ AMOUNT: _____ TERMS: _____					CREDITOR: _____ PURPOSE: _____ AMOUNT: _____ TERMS: _____					CREDITOR: _____ PURPOSE: _____ AMOUNT: _____ TERMS: _____					
	Repayment Record					Repayment Record					Repayment Record					
	Date	Total	Interest	Principal	Unpaid Principal Bal.	Date	Total	Interest	Principal	Unpaid Principal Bal.	Date	Total	Interest	Principal	Unpaid Principal Bal.	
1.																1.
2.																2.
3.																3.
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25.																25.
26.																26.

FORM 24 **CREDIT LINES AND SHORT-TERM NOTES**

	CREDITOR: _____ PURPOSE: _____ TERMS: _____						CREDITOR: _____ PURPOSE: _____ TERMS: _____						CREDITOR: _____ PURPOSE: _____ TERMS: _____						
	Date	Borrowings	Payments			Unpaid Principal Balance	Date	Borrowings	Payments			Unpaid Principal Balance	Date	Borrowings	Payments			Unpaid Principal Balance	
			Total	Interest	Principal				Total	Interest	Principal				Total	Interest	Principal		
1.																			1.
2.																			2.
3.																			3.
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26.																			26.

19___ **LIVESTOCK ENTERPRISE DATA** **Enterprise:** _____ **FORM 30**

	PURCHASED FEED (protein, pre-mix, etc.)						GRAINS						ROUGHAGE					
							Corn											
	Quantity	$	Quantity	$	Quantity	$	Bushel	$	Bushel	$	Bushel	$	Tons	$	Tons	$	Pasture Days	
JAN.																		JAN.
FEB.																		FEB.
MARCH																		MARCH
APRIL																		APRIL
MAY																		MAY
JUNE																		JUNE
JULY																		JULY
AUG.																		AUG.
SEPT.																		SEPT.
OCT.																		OCT.
NOV.																		NOV.
DEC.																		DEC.
TOTAL																		TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	

	Average # Sows & Gilts in Herd	# Litters Farrowed	# Pigs Born	# Pigs Weaned		Average # Cows, Ewes, Mares	# Born	# Weaned		Average % Test for Dairy Cows	Average Dairy Cows Dry	Average Dairy Cows Milked
JAN.					JAN.				JAN.			
FEB.					FEB.				FEB.			
MARCH					MARCH				MARCH			
APRIL					APRIL				APRIL			
MAY					MAY				MAY			
JUNE					JUNE				JUNE			
JULY					JULY				JULY			
AUG.					AUG.				AUG.			
SEPT.					SEPT.				SEPT.			
OCT.					OCT.				OCT.			
NOV.					NOV.				NOV.			
DEC.					DEC.				DEC.			
TOTAL					TOTAL				AVERAGE			
	18	19	20	21		22	23	24		25	26	27

POULTRY:
Eggs produced: _____doz. $_____
Eggs sold: _____ doz. $_____
Eggs consumed: _____ doz. $ _____

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TM 5.5

19___ ANNUAL ENTERPRISE EXPENSE ALLOCATION

FORM 31

		NAME OF ENTERPRISE:													
	COSTS (OPERATOR)	TOTAL													
1.	Breeding Fees														1.
2.	Chemicals														2.
3.	Conservation														3.
4.	Feed														4.
5.															5.
6.															6.
7.															7.
8.	Fertilizer and Lime														8.
9.	Freight and Trucking														9.
10.	Gasoline, Fuel, and Oil														10.
11.	Insurance														11.
12.	Interest: Mortgage														12.
13.	Interest: Other														13.
14.	Labor Hired														14.
15.	Machine Hire														15.
16.	Cash Rent														16.
17.	Repairs: Machine														17.
18.	Repairs: Buildings and Fences														18.
19.	Seeds and Plants														19.
20.	Storage														20.
21.	Supplies														21.
22.	Taxes														22.
23.	Utilities - Farm Share														23.
24.	Veterinarian and Medicine														24.
25.	Miscellaneous Farm Expenditures														25.
26.															26.
A.	TOTAL CASH COST (lines 1 thru 26)														A.
27.	Feed - Raised														27.
28.	Value of Unpaid Labor														28.
29.	Livestock Depreciation														29.
30.	Machine Depreciation														30.
31.	Building Depreciation														31.
32.	Cost Landlord Acres														32.
33.	Livestock Purchased for Resale														33.
34.															34.
B.	TOTAL (lines A + 27 thru 34)														B.

FORM 32 **19___ FIELD RECORD**

	FIELD NO.	DESCRIPTION	ACRES	CROP	TILLAGE TIME/ TYPE*	SEED			FERTILIZER							LIME			
						Date	Variety	Rate/ Acre	Date	Application Method**	Pounds Applied/Acre N	P_2O_5	K_2O			Date	Tons/ Acres	Test	
1.																			1.
2.																			2.
3.																			3.
4.																			4.
5.																			5.
6.																			6.
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25.																			25.
26.																			26.

*TIME: F = Fall, S = Spring. Type: P = Plow, C = Chisel, DH = Disk Harrow, FC = Field Cultivator, CU = Cultivator

**Application Method: D = Deep, ST = Starter, SD = Side Dress, TD = Top Dress, PPI = Preplant Incorporate

19 ___ FIELD RECORD Cont.

FORM 33

	HERBICIDE				HERBICIDE				HERBICIDE				INSECTICIDE			HARVEST			NOTES (special conditions, rainfall, irrigation, etc.)	
	Date	Kind	Method	Rate/ Acre	Date	Kind	Method	Rate/ Acre	Date	Kind	Method	Rate/ Acre	Date	Kind	Rate/ Acre	Date	Yield/ Acre	% Moisture		
1.																				1.
2.																				2.
3.																				3.
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26.																				26.

FORM 34 **19___LIVESTOCK PURCHASED FOR RESALE**

ENTERPRISE:

	Purchased				Death Loss				Sales				
	Date	Quantity	Description	$ Amount	Date	Quantity	Description	$ Amount	Date	Quantity	Description	$ Amount	
1.													1.
2.													2.
3.													3.
4.													4.
5.													5.
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22.													22.
23.													23.
24.													24.
25.													25.
26.													26.
27.													27.

19___LIVESTOCK PURCHASED FOR RESALE Cont.

FORM 35

	ENTERPRISE:												
	Purchased				Death Loss				Sales				
	Date	Quantity	Description	$ Amount	Date	Quantity	Description	$ Amount	Date	Quantity	Description	$ Amount	
1.													1.
2.													2.
3.													3.
4.													4.
5.													5.
6.													6.
7.													7.
8.													8.
9.													9.
10.													10.
11.													11.
12.													12.

	ENTERPRISE:												
	Purchased				Death Loss				Sales				
	Date	Quantity	Description	$ Amount	Date	Quantity	Description	$ Amount	Date	Quantity	Description	$ Amount	
1.													1.
2.													2.
3.													3.
4.													4.
5.													5.
6.													6.
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11.													11.
12.													12.

FORM 36 **19 ___ MONTHLY LIVESTOCK INVENTORY RECORD**

	LIVESTOCK ENTERPRISE:																					
	Beginning Inventory			Purchased (plus)			Weaned (plus)			Sold (minus)			Died (minus)			Consumed (minus)			Adjustments (plus/minus)	Ending Inventory			
	Head	Lbs.	Value	Head	Lbs.	Value	Head	Lbs.	Value	Head	Lbs.	Value	Head	Lbs.	Value	Head	Lbs.	Value		Head	Lbs.	Value	
JAN.																							JAN.
FEB.																							FEB.
MARCH																							MARCH
APRIL																							APRIL
MAY																							MAY
JUNE																							JUNE
JULY																							JULY
AUG.																							AUG.
SEPT.																							SEPT.
OCT.																							OCT.
NOV.																							NOV.
DEC.																							DEC.
TOTAL																							TOTAL

	LIVESTOCK ENTERPRISE:																					
	Beginning Inventory			Purchased (plus)			Weaned (plus)			Sold (minus)			Died (minus)			Consumed (minus)			Adjustments (plus/minus)	Ending Inventory			
	Head	Lbs.	Value	Head	Lbs.	Value	Head	Lbs.	Value	Head	Lbs.	Value	Head	Lbs.	Value	Head	Lbs.	Value		Head	Lbs.	Value	
JAN.																							JAN.
FEB.																							FEB.
MARCH																							MARCH
APRIL																							APRIL
MAY																							MAY
JUNE																							JUNE
JULY																							JULY
AUG.																							AUG.
SEPT.																							SEPT.
OCT.																							OCT.
NOV.																							NOV.
DEC.																							DEC.
TOTAL																							TOTAL

IV-131

TM 5.11

FORM 37

19 ___ MONTHLY FEED AND GRAIN INVENTORY RECORD

	FEED AND/OR GRAIN:																			
	Beginning Inventory		Purchased (plus)		Raised (plus)		Sold (minus)		Fed (minus)		Seed (minus)		Adjustments (plus/minus)	Ending Inventory		Comments	
	Qt.	Value	Qt.	Value	Qt.	Value	Qt.	Value	Qt.	Value	Qt.	Value		Qt.	Value		
JAN.																	JAN.
FEB.																	FEB.
MARCH																	MARCH
APRIL																	APRIL
MAY																	MAY
JUNE																	JUNE
JULY																	JULY
AUG.																	AUG.
SEPT.																	SEPT.
OCT.																	OCT.
NOV.																	NOV.
DEC.																	DEC.
TOTAL																	TOTAL

	FEED AND/OR GRAIN:																			
	Beginning Inventory		Purchased (plus)		Raised (plus)		Sold (minus)		Fed (minus)		Seed (minus)		Adjustments (plus/minus)	Ending Inventory		Comments	
	Qt.	Value	Qt.	Value	Qt.	Value	Qt.	Value	Qt.	Value	Qt.	Value		Qt.	Value		
JAN.																	JAN.
FEB.																	FEB.
MARCH																	MARCH
APRIL																	APRIL
MAY																	MAY
JUNE																	JUNE
JULY																	JULY
AUG.																	AUG.
SEPT.																	SEPT.
OCT.																	OCT.
NOV.																	NOV.
DEC.																	DEC.
TOTAL																	TOTAL

Lesson 5: Completing Additional Records

Additional forms are included in the Missouri Farm Business Record Book to record information other than receipts and expenditures. Much of the information for these forms will be transferred from the receipts and expenditure pages, either monthly or as the transaction occurs. The additional forms are helpful when analyzing the farm business or any of the enterprises within the business.

Hired Labor and Independent Contractors

Hired Labor Record (Form 21) - You would record a person you hire to do work, usually using your equipment on Form 21. You must pay income tax and social security tax on labor that is hired in the farm business that meets certain guidelines. The form is divided into three sections. A separate section should be used for each employee hired in the farm business. The employee's name, address, and social security number should be recorded. Each time the employee works for you, the date, hours worked, gross wages paid, deduction information, and net amount paid should be recorded. The amount in the "net paid" column should be equal to the amount entered on Form 8, column 45. Refer to the current Farmer's Tax Guide for guidelines for determining when social security and income tax should be paid on an employee.

Independent Contractors (Form 22) - An independent contractor is a person or firm that you contract to perform a specific service for a set fee. You do not pay income tax and social security taxes on the amount paid to an independent contractor or to its employees. The form is divided into three sections. A separate section should be used for each individual or firm for which service was contracted. The contractor's name, address, and social security number should be recorded. Each time the person or firm is paid for a service, it should be recorded on the form after it is entered in the expenditures section. The amount in the "net paid" column should be equal to the amount recorded in column 45 on Form 8 for that transaction.

Recording Liabilities

Intermediate and Long-term Multipayment Note and Mortgage Record (Form 23) - Form 23 is provided to keep track of incurred liabilities, as well as when payment is made against existing liabilities. An intermediate loan (machinery, livestock, personal auto) is for a period of one to ten years. Long-term notes generally include loans for real estate. You may want to record farm and non-farm liabilities on separate pages to avoid confusion when transferring to the financial statement. The form is divided into three separate sections so that three long-term or intermediate liabilities may be recorded. The following information should be recorded for each individual loan: creditor's name, purpose of the loan, amount, and terms. Each time a payment is made, the information should be recorded on Form 23. The date, total payment, amount of interest and principal paid, and the remaining unpaid principal balance should be recorded. The total payment made should be equal to the amount entered in the "total cost" column of Form 7 for that transaction. The amount of interest paid should be equal to the figure entered on Form 8, column 43 or 44. The amount of principal paid is equal to the figure entered on Form 10, column 64. The unpaid principal balance is equal to the amount of the loan until the first payment is made. When a payment is made, the amount of principal (not the amount of interest) is subtracted from the previous unpaid principal balance.

Credit Lines and Short-term Notes (Form 24) - Form 24 is used to record both farm and non-farm liabilities that are to be repaid in one year or less. The form is divided so that three separate liabilities may be recorded on the same form. The creditor's name, purpose of the

loan, and the terms of repayment should be recorded at the heading of the section. The date the liability occurs and the total amount borrowed should be recorded on line 1. When a payment is made, the total amount paid should be recorded. This amount should match the figure in the "total cost" column of Form 7 for the transaction. The amount of interest paid should match Form 8, column 43 or 44. The amount of principal paid should match Form 10, column 64. The unpaid principal balance is determined by subtracting the amount of principal paid (not the total payment) from the previous unpaid principal balance.

Completing Enterprise Analysis Forms

Livestock Enterprise Data (Form 30) - The information needed for this form must be pulled from the receipt, expenditure, and inventory forms. If "Distribution of Enterprise Receipts" (Form 5) and "Distribution of Enterprise Expenditures" (Form 11) are distributed monthly, the totals will be easy to transfer to Form 30. Each livestock enterprise in the farm business should be recorded on a separate form. The year and enterprise being analyzed should be recorded at the top of the page. An entry should be made monthly for the value and amount of feed, grain, and roughage fed to that specific enterprise. A monthly inventory of the number of head in the enterprise can be maintained on the bottom portion of the form. Averages are used for recording the number of head so that sales and purchases made during the month will not result in an inaccurate analysis for the month.

Annual Enterprise Expense Allocation (Form 31) - This form is designed to be used several ways, depending on your preference. If you record each enterprise on a separate form, you may record monthly expenses for the enterprise by writing each month in the column headings. If you decide to compare all enterprises on the same form, you should write the names of the enterprises in the column headings, rather than the months. If you compare all enterprises, only a yearly analysis may be conducted from this form. The total amount spent on each item listed should be recorded in the total column and allocated to each enterprise as they were on Form 11. The form should be totalled and checked for accuracy similar to the cash flow summary (Form 27). Refer to the Enterprise Forms tab of the record book for directions on where the information for this form is found.

Field Record (Forms 32 and 33) - This information is vital for planning your cropping rotation system and identifying problem areas in your cropping system. This information needs to be entered when the task is completed, as it is not transferred from other forms. The field number, description, number of acres, and type of crop should be recorded for each field. The appropriate production information, such as tillage time and type, seed information, fertilizer, lime, herbicide and insecticide application, harvest data, and notes about special conditions that might have an effect on production, should be recorded.

Livestock Purchased for Resale (Forms 34 and 35) - These forms can give an overall look at the investment, returns, percentages, etc., of specific enterprises. Livestock purchased with the intent to it sell again, (e.g., feeder calves, feeder pigs) rather than add to the breeding herd, is recorded on this form. Farmers using the cash basis accounting method will need to keep this form up-to-date in order to deduct these purchases. The enterprise in which the largest amount of purchases for resale will occur should be recorded on Form 34 since more lines are available than on Form 35.

Monthly Livestock Inventory Record (Form 36) - The form is separated into two identical sections, with each enterprise being recorded separately in a section. Additional forms may be added if necessary. A beginning inventory of the number of head, pounds, and value of livestock is recorded. This beginning inventory should match the beginning inventory for the enterprise (breeding and non-breeding) on Form 17. When livestock for that enterprise is

purchased, weaned, sold, dead, or is consumed, it should be recorded on this form. To determine the ending inventory for the month, the following formula should be used:

Ending inventory = Beginning inventory + no. purchased + no. weaned - no. sold - no. of deaths - no. consumed +/- adjustments.

Adjustments for the livestock inventory are used to record the loss of animals that were lost, strayed, or stolen. The adjustment is expressed in terms of amount, rather than value.

Monthly Feed and Grain Inventory Record (Form 37) - This form allows you to keep a monthly inventory of all feed and grain produced and purchased in the farm business. The form is separated into two identical sections. Each type of feed or grain should be recorded separately. This form is completed similarly to Form 36, except that there is a space for comments. Adjustments can be made in the feed and grain inventory to account for shrinkage and unaccountable inventory. The adjustment should be expressed in terms of amount and not of value.

Summary

The additional records found in the Missouri Farm Business Record Book are helpful when conducting an enterprise analysis or making management decisions. The information for these forms should be recorded as the entry occurs or monthly to provide up-to-date records for each enterprise.

Credit

The Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 6: Summarizing the Missouri Farm Business Record Book

Objective: The student will be able to complete the forms necessary to summarize the Missouri Farm Business Record Book.

Study Questions

1. How is the Farm Business Cash Flow summary totalled?
2. How is the Non-Farm and Personal Cash Flow summary totalled?
3. What other forms should be completed when summarizing the Missouri Farm Business Record Book?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Developing Programs of Supervised Agricultural Experience (Unit IV Handouts). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [For adult instruction only]
3. Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
4. Sample Entries for the Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
5. Sample Entries for the Missouri Farm Business Record Book (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 6: Summarizing the Missouri Farm Business Record Book

TEACHING PROCEDURES

A. Review

Review this lesson if students have already summarized the Missouri Agricultural Record Book for Secondary Students. If students have not summarized to this point, introduce the importance of this lesson.

B. Motivation

Ask students to estimate how much money they made after expenses. Which months did they make the most money? Which months did they lose money?

C. Assignment

D. Supervised study

E. Discussion

1. Have the class look at a copy of Form 27 as it is discussed. Use TM 3.5 and 3.6 (Unit IV, Lesson 3) to illustrate the correct procedure for totalling the cash flow summary. Point out to students that if non-farm receipts and expenses are to be included in the farm cash flow, the non-farm cash flow summary (Form 28) should be completed before the farm cash flow. A computer program should be used if one is available.

How is the Farm Business Cash Flow summary totalled?

a) All monthly totals should already have been transferred from receipt and expenditure pages and columns totalled for each month on the cash flow.
b) The total lines are designated by capital letters (A, B, C, etc.) and should already be totalled across the page for each month. Only total the lines after the columns are totalled monthly.
c) Total each line and check for accuracy.
d) Calculate total dollars used.
e) Calculate the cash difference for the month (line K).
f) Calculate the cash balance at the end of the month (line L).
h) The credit balance should match with the totals on Forms 23 and 24.

2. Have the class look at a copy of Form 28 as it is discussed in class. It will be similar to Form 27, but less calculations will need to be made. Use TM 4.7 (Unit IV, Lesson 4) to illustrate how the Non-Farm and Personal Cash Flow summary is totalled.

How is the Non-Farm and Personal Cash Flow summary totalled?

a) Monthly totals should already have been transferred from receipt and expenditure pages and totalled for each month on the cash flow.
b) The total lines are designated by capital letters (A, B, C, etc.) and should

already be totalled across the page for each month. Only total the lines once the columns are totalled monthly.

c) Calculate the total columns and check for accuracy.
d) Calculate the cash difference for the month (line C).
e) If non-farm cash flow will be included in the farm cash flow, transfer the totals.
   1) Line A on Form 28 to line D on Form 27
   2) Line B on Form 28 to line I on Form 27

3. Review Unit IV, Lesson 2 to illustrate the steps to follow when completing the forms needed to summarize the Missouri Farm Business Record Book. TM 2.2 through 2.11 (Unit IV, Lesson 2) should be used to re-illustrate the correct procedure for completing inventories, depreciation schedules, and financial statements. TM 5.5 through 5.12 (Unit IV, Lesson 5) should be used to illustrate the correct procedure for totalling enterprise analysis forms.

   What other forms should be completed when summarizing the Missouri Farm Business Record Book?

   a) Depreciation schedules (Forms 13 & 14, 15 & 16, 19 & 20) (Refer to Unit IV, Lesson 2.)
   b) Inventories (Forms 17 and 18) (Refer to Unit IV, Lesson 2.)
   c) Financial statements (Forms 25 and 26) (Refer to Unit IV, Lesson 2.)
   d) Enterprise analysis (Forms 30 - 37); Monthly totals should already have been completed. Form totals for the year should be calculated.

F. Other activities

G. Conclusion

When all receipts and expenditures have been entered for the year, the Missouri Farm Business Record Book should be summarized so that an analysis can be performed.

H. Competency

Complete the forms necessary to summarize the Missouri Farm Business Record Book.

I. Answers to Evaluation

1. b
2. c
3. d
4. d

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK Name _____

Lesson 6: Summarizing the Missouri Farm Business Record Book Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. Information for the cash flow summary is transferred from the _____?

   a. Profit or loss statement
   b. Receipts and expenditures
   c. Financial statement
   d. Inventories
   e. Enterprise analysis forms

2. Which form is not used to summarize the Missouri Farm Business Record Book?

   a. Enterprise analysis forms
   b. Financial statement
   c. Profit or loss statement
   d. Inventories
   e. Depreciation schedules

3. When should information be transferred to the cash flow summary?

   a. Every year
   b. Every six months
   c. Once during the SAE program
   d. Every month
   e. Never

4. What is equal to the cash balance at the beginning of the month?

   a. The total value of inventories
   b. Line 6 on the financial statement
   c. The amount of money made during the year
   d. The balance in the checking and/or savings account
   e. The amount of money you expect to earn that month

Lesson 6: Summarizing the Missouri Farm Business Record Book

Cash flow summaries are used to total the amount of receipts and expenditures that are incurred by the farm business for the year. All monthly totals from the receipts and expenditure pages should be transferred carefully to provide an accurate summary.

Farm Business Cash Flow Summary

If non-farm receipts and expenditures are to be included in the farm cash flow, the non-farm cash flow summary (Form 28) should be completed before completing Form 27 since information from Form 28 is transferred to Form 27. All monthly totals should already have been transferred and columns totalled for each month. The total lines are designated by capital letters (A, B, C, etc.) and should already be totalled across the page for the year. The totals column to the far right of the page should be completed for each line of receipts and expenditures designated by a number (1, 2, 3, etc.) The total can be calculated by adding the receipts or expenditures for that particular type of entry across the page. Accuracy may be checked by comparing the figure on a lettered line in the total column to the total of the lines in the total column. Total receipts or expenditures added across the page should match the receipts and expenditures added down the page. If the totals do not match, an error has been made and the section needs to be recalculated. Total dollars available equals line C plus line 31 plus line D.

Total dollars used is calculated by adding total farm expenditures, principal paid on borrowed funds, and non-farm expenditures. Cash difference for the month (line K) is determined by total dollars available (line E) minus total operating expenditures (line J). The cash balance at the end of the month (line L) is determined by taking the cash balance at the end of the previous month and adding or subtracting the cash difference for the month. When calculating line L for January, the cash balance at the end of the previous month is the cash balance for December of the previous year. If records are not available for the previous year, the cash balance at the end of the previous month is equal to the beginning bank balance for the record keeping system. Line L for the total column will be equal to the beginning cash balance for the record keeping year. The credit balance should match with the totals on Forms 23 and 24. If records are available for the previous year, the credit balance at the end of the year becomes the credit balance for the beginning of January. If no records are available, the credit balance is equal to the total amount of credit and loans on the first day of the record keeping year.

Non-Farm and Personal Cash Flow

Form 28, Non-Farm and Personal Cash Flow, is similar to Form 27 and should be totalled in the same manner. Monthly totals should already have been transferred and totalled for each month. The total lines are designated by capital letters (A, B, C, etc.) and should already be totalled across the page for the year. The totals column to the far right of the page should be completed for each line of receipts and expenditures designated by a number (1, 2, 3, etc.) The total can be calculated by adding the receipts or expenditures for that particular type of entry across the page. Accuracy may be checked where a line designated by a letter reaches the total column. Total receipts or expenditures added across the page should match the receipts and expenditures added down the page. If this does not occur, an error has been made and the section above needs to be recalculated. Cash difference for the month (line C) is determined by subtracting total non-farm and personal expenditures (line J) from total non-farm and personal receipts (line A).

Additional Summary Forms

There are additional summary forms that will need to be completed before analysis can occur. Methods for completing these forms were discussed earlier when opening the record book. Each form is listed below, with the lesson number to refer to if you need to review directions for completing the form.

1. Depreciation schedules (Forms 13 & 14, 15 & 16, 19 & 20) (Refer to Unit IV, Lesson 2.)
2. Inventories (Forms 17 and 18) (Refer to Unit IV, Lesson 2.)
3. Financial statements (Forms 25 and 26) (Refer to Unit IV, Lesson 2.)
4. Enterprise analysis (Forms 30 - 37); Monthly totals should already have been completed. Form totals for the year should be calculated.

Summary

Before a complete analysis can be made of the farm business, the information that has been recorded in the record book throughout the year must be summarized to provide a complete picture of the farm business. Once the summary has been completed, analysis of the farm business may be accomplished.

Credit

Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 7: Analyzing the Farm Business

Objective: The student will be able to complete the forms needed to analyze the farm business.

Study Questions

1. What information is provided from the financial ratios on the financial statement?
2. How is a Profit or Loss Statement completed?
3. How are enterprise analysis forms interpreted for the farm business?

References

1. Developing Programs of Supervised Agricultural Experience (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Developing Programs of Supervised Agricultural Experience (Unit IV Handouts). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [For adult instruction only]
3. Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.
4. Sample Entries for the Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
5. Sample Entries for the Missouri Farm Business Record Book (Answer Key). University of Missouri-Columbia: Instructional Materials Laboratory, 1989. [Teacher Reference]
6. Transparency Master
   a) TM 7.1: Profit or Loss Statement (Form 29)

UNIT IV - USING THE MISSOURI FARM BUSINESS RECORD BOOK

Lesson 7: Analyzing the Farm Business

TEACHING PROCEDURES

A. Review

Review the previous lesson on summarizing the Missouri Farm Business Record Book.

B. Motivation

Ask students how their records will help them maximize their after-tax income. How will they decide what changes to make in the farm business?

C. Assignment

D. Supervised study

E. Discussion

1. Ask students how the financial ratios calculated on the financial statement can help them compare the farm business from year to year. Use TM 2.10 (Unit IV, Lesson 2) to explain the financial ratios on the financial statement.

   What information is provided from the financial ratios on the financial statement?

   a) Liquidity
   b) Debt-to-asset ratio (solvency)

2. Have the class look at a Profit or Loss Statement to determine where the information is located. Discuss the lines where information is not transferred so that the class will understand how the information may be determined. Use TM 7.1 to illustrate how the financial statement is completed.

   How is a Profit or Loss Statement (Form 29) completed?

   a) Record the year.
   b) Most of the information is transferred from other forms.
   c) Calculate total lines (A, B, C, etc.).
   d) Determine the value of home products used.
   e) Complete the net worth reconciliation.
   f) Determine value of family labor.

3. Discuss with the class the type of analysis information that may be obtained from the enterprise analysis forms. Briefly discuss each form with the class. Use TM 5.5 through 5.12 (Unit IV, Lesson 5) to explain how information found on enterprise analysis forms may be used to analyze the farm business. You should provide examples of a good and bad analysis (e.g., average litter size, good liquidity ratio, production averages).

   How are enterprise analysis forms interpreted for the farm business?

a) Precise analysis of each enterprise
b) Base for making management decisions

F. Other activities

G. Conclusion

Analysis of the farm business is one of the end goals of the entire record keeping system. An accurate set of farm records will allow you to make intelligent decisions for improving the farm business.

H. Competency

Analyze the farm business using the Missouri Farm Business Record Book.

I. Answers to Evaluation

1) d
2) b
3) b
4) d
5) See the Profit or Loss Statement on the following page. (The instructor will need to provide a Profit or Loss Statement, TM 7.1, for each student.)

19 ___ **PROFIT OR LOSS STATEMENT** **FORM 29**

	RECEIPTS		
1.	Crop Sales (Form 27, lines 1 thru 6)	$14,500	
2.	Miscellaneous Receipts (Form 27, lines 7 thru 14 and lines 21 thru 26)	0	
3.	Non-Breeding Livestock Sales (Form 27, lines 15 thru 17)	0	
4.	Livestock Product Sales (Form 27, lines 18 thru 20)	150	
5.	Capital Sales (Form 27, line B)	0	
A.	TOTAL FARM RECEIPTS (lines 1 thru 5 or Form 27, line C)		$14,650
	EXPENDITURES		
6.	Operating Expenditures (Form 27, lines 32 thru 57)	$6,500	
7.	Non-Breeding Livestock (Form 27, lines 58 + 59)	0	
8.	Breeding Livestock (Form 27, lines 60 + 61)	0	
9.	Machinery and Equipment (Form 27, line 62)	1,000	
10.	Land and Buildings (Form 27, line 63)	0	
B.	TOTAL FARM EXPENDITURES (lines 6 thru 10 or Form 27, line H)		$7,500
C.	NET CASH INCOME (line A - line B)		$7,150

	CHANGES IN INVENTORY	Beginning	Ending	Change plus/minus
11.	Livestock (Form 17, line A)	$1,100	$2,000	$+900
12.	Feed, Crops, Supplies (Form 18, line F)	0	0	0
13.	Machinery and Equipment (Form 13 or 14)	1,200	700	-500
14.	Real Estate and Building Improvements (Form 20)	0	0	0
15.	Adjustments: Accounts Payable & Accrued Interest & Taxes (Form 25, lines 16 + 18)	0	0	0
16.	Adjustments - Accounts Receivable (Form 25, line 2)	200	400	+200
D.	TOTAL INVENTORY CHANGE (lines 11 thru 16)			$600
17.	Value Home Products Used (Estimate)			600
E.	NET FARM INCOME (lines C + D + 17)			$8,350

NET WORTH RECONCILIATION

[(Form 29, line C + Form 29, line D + Form 28, line C + Form 25, line N = Form 25, line P (Approximately)]

	BUSINESS ANALYSIS		
18.	Interest Paid (Form 27, lines 43 & 44)		$ 50
19.	RETURN TO FARM CAPITAL AND FAMILY LABOR (line E + line 18)		$8,400
	FARM LABOR		
20.	Unpaid Operator	1000 HRS.	$4,000
21.	Unpaid Family	0 HRS.	0
22.	Hired Labor (Include paid family labor.) (Form 21)	0 HRS.	0
23.	Independent Contractors (Form 22)	0 HRS.	0
F.	TOTAL FARM LABOR (lines 20 thru 23)	1000 HRS.	$4,000
24.	Man Years Labor = line F (total hours) divided by 2400		1.7 Man Yrs.
	FARM CAPITAL		
25.	RETURN TO TOTAL FARM CAPITAL (line 19 - line 20 - line 21)		$ 4,400
26.	PERCENT RETURN ON TOTAL FARM CAPITAL [line 25 divided by Average Total Farm Assets (Form 25, line D)]		8.8 %
27.	PERCENT RETURN ON FARM NET WORTH [(line 25 - line 18) divided by Average Farm Net Worth (Form 25, line I)]		7.9 %
	VALUE OF FARM PRODUCTION		
28.	Total Farm Receipts Less Capital Sales (line A - line 5)	$14,650	
29.	Plus Change in Livestock and Feed Inventory (lines 11 + 12)	+900	
30.	Plus Adjustments - Accounts Receivable (line 16) +/-	+200	
31.	Minus Feed Purchased (Form 27, lines 35 thru 38)	0	
32.	Minus Purchased Livestock (Form 27, lines 58 thru 61)	0	
33.	VALUE OF FARM PRODUCTION (lines 28 + 29 + 30 - 31 - 32)		$15,750
34.	VALUE OF FARM PRODUCTION PER MAN (line 33 divided by line 24)		$ 9,265
35.	CAPITAL TURNOVER (Form 25, line D divided by Form 29, line 33)		No. of Yrs. 3.2

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 Name _____

Lesson 7: Analyzing the Farm Business Date _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. What kind of business is one in which total assets exceed total liabilities?

   a) Leveraged
   b) Insolvent
   c) Liquid
   d) Solvent
   e) Bankrupt

2. What is another term for debt:asset ratio?

   a) Liquidity
   b) Solvency
   c) Bankruptcy
   d) Leverage
   e) Solidity

3. What is the ability to meet current obligations as they come due referred to as?

   a) Solvency
   b) Liquidity
   c) Leverage
   d) Stability
   e) Wealth

4. When should a Profit or Loss Statement be completed?

   a) At the beginning of each month
   b) At the end of each month
   c) Every day
   d) At the end of the year
   e) Once every five years

5. Enter the following information on the proper lines on the blank Profit or Loss Statement (Form 28) provided. Assume that the following information is transferred from the appropriate form of the record book.

1. Crop sales = $14,500.00
2. Livestock product sales = $150.00
3. Operating Expenditures = $6,500.00
4. Machinery and Equipment = $1,000.00
5. Livestock inventory change = Beginning: $1,100.00, Ending: $2,000.00
6. Machinery & equipment inventory change = Beginning: $1,200.00, Ending: $700.00
7. Adjustments-Accounts Receivable = Beginning: $200.00, Ending: $400.00
8. Value home products used (estimate) = $600.00
9. Interest paid = $50.00
10. Unpaid operator = 1,000 hrs. x $4.00/hr.
11. Average total farm assets = $50,000.00
12. Average farm net worth = $55,000.00
13. Total farm assets (Form 25, line D) = $50,000

When all of the above information has been entered into Form 29, total the form. Any line that has no entry (except total lines) is assumed to be zero. Read the directions in parenthesis for each line and perform any calculations that will be required.

19 ___ **PROFIT OR LOSS STATEMENT** **FORM 29**

	RECEIPTS		
1.	Crop Sales (Form 27, lines 1 thru 6)	$	
2.	Miscellaneous Receipts (Form 27, lines 7 thru 14 and lines 21 thru 26)		
3.	Non-Breeding Livestock Sales (Form 27, lines 15 thru 17)		
4.	Livestock Product Sales (Form 27, lines 18 thru 20)		
5.	Capital Sales (Form 27, line B)		
A.	TOTAL FARM RECEIPTS (lines 1 thru 5 or Form 27, line C)		$
	EXPENDITURES		
6.	Operating Expenditures (Form 27, lines 32 thru 57)	$	
7.	Non-Breeding Livestock (Form 27, lines 58 + 59)		
8.	Breeding Livestock (Form 27, lines 60 + 61)		
9.	Machinery and Equipment (Form 27, line 62)		
10.	Land and Buildings (Form 27, line 63)		
B.	TOTAL FARM EXPENDITURES (lines 6 thru 10 or Form 27, line H)		$
C.	NET CASH INCOME (line A - line B)		$

	CHANGES IN INVENTORY	Beginning	Ending	Change plus/minus	
11.	Livestock (Form 17, line A)	$	$	$	
12.	Feed, Crops, Supplies (Form 18, line F)				
13.	Machinery and Equipment (Form 13 or 14)				
14.	Real Estate and Building Improvements (Form 20)				
15.	Adjustments: Accounts Payable & Accrued Interest & Taxes (Form 25, lines 16 + 18)				
16.	Adjustments - Accounts Receivable (Form 25, line 2)				
D.	TOTAL INVENTORY CHANGE (lines 11 thru 16)				$
17.	Value Home Products Used (Estimate)				
E.	NET FARM INCOME (lines C + D + 17)				$

	NET WORTH RECONCILIATION
	[(Form 29, line C + Form 29, line D + Form 28, line C + Form 25, line N = Form 25, line P (Approximately)]

	BUSINESS ANALYSIS		
18.	Interest Paid (Form 27, lines 43 & 44)		$
19.	RETURN TO FARM CAPITAL AND FAMILY LABOR (line E + line 18)		$
	FARM LABOR		
20.	Unpaid Operator	HRS.	$
21.	Unpaid Family	HRS.	
22.	Hired Labor (Include paid family labor.) (Form 21)	HRS.	
23.	Independent Contractors (Form 22)	HRS.	
F.	TOTAL FARM LABOR (lines 20 thru 23)	HRS.	$
24.	Man Years Labor = line F (total hours) divided by 2400		Man Yrs.
	FARM CAPITAL		
25.	RETURN TO TOTAL FARM CAPITAL (line 19 - line 20 - line 21)		$
26.	PERCENT RETURN ON TOTAL FARM CAPITAL [line 25 divided by Average Total Farm Assets (Form 25, line D)]		%
27.	PERCENT RETURN ON FARM NET WORTH [(line 25 - line 18) divided by Average Farm Net Worth (Form 25, line I)]		%
	VALUE OF FARM PRODUCTION		
28.	Total Farm Receipts Less Capital Sales (line A - line 5)	$	
29.	Plus Change in Livestock and Feed Inventory (lines 11 + 12)		
30.	Plus Adjustments - Accounts Receivable (line 16) +/-		
31.	Minus Feed Purchased (Form 27, lines 35 thru 38)		
32.	Minus Purchased Livestock (Form 27, lines 58 thru 61)		
33.	VALUE OF FARM PRODUCTION (lines 28 + 29 + 30 - 31 - 32)		$
34.	VALUE OF FARM PRODUCTION PER MAN (line 33 divided by line 24)		$
35.	CAPITAL TURNOVER (Form 25, line D divided by Form 29, line 33)		No. of Yrs.

Lesson 7: Analyzing the Farm Business

Once the record book has been summarized, the information on the summary and additional forms can be used to analyze the farm business. It is important to understand a few economical terms so that a meaningful analysis can be made.

Financial Statement Ratios

The "Farm Business Financial Ratios" section at the bottom of the financial statement provides analysis information for the farm business.

Liquidity (current assets + current liabilities) - Liquidity refers to the ability to meet current cash obligations as they come due. A current ratio of 3:1 indicates that there are three dollars worth of assets for every one dollar of liabilities.

Debt-to-asset ratio (total liabilities + total assets) - Debt-to-asset ratio is referred to as solvency. A business is considered to be solvent if total assets exceed total liabilities. A ratio of .5:1 would indicate that a business is solvent because for every $.50 in liabilities there is $1.00 in assets.

Completing the Profit or Loss Statement

A Profit or Loss Statement should be completed at the end of each year. This statement is used to calculate the earnings of the farm business. It shows the cash balance plus or minus inventory changes. It can also be used to compare income producing ability over a period of years. The right side of the form is an analysis of the farm business for the year, and if compared with state averages or other standards, it may indicate areas of the business which could be adjusted to increase income.

The year should be recorded at the top of the form. Most information for this form is transferred from other forms in the record book. Each line will refer you to the proper form and line number. All lines designated by a letter (A, B, C, etc.) should be totalled. Line 17, "value of home products used," is estimated based on the value of all farm products your family consumed for the year. The net worth reconciliation line is provided as an accuracy check for the record book. By using the formula provided on the form, the equation should balance. If the equation does not balance, check figures on Form 29 against the inventories, depreciation schedules, and financial statement. Lines 20 and 21 of the "Farm Labor" section are not recorded at any other place in the record book. You will need to determine the correct information that will be recorded in this section.

Interpreting Enterprise Analysis Forms

The purpose of enterprise analysis forms is to help you obtain a precise analysis of each enterprise. These forms can be used to make valuable decisions that may affect the profitability of your farm business operation. You should look at the different enterprise forms to determine which enterprises are helping the overall farm business and which are hindering the operation.

Summary

Analysis of the farm business is one of the most important aspects of record keeping. If accurate records are maintained the manager can determine if the farm business or any enterprise within the business is making or losing money.

Credit

Missouri Farm Business Record Book. University of Missouri-Columbia: Instructional Materials Laboratory, 1988.